



CHRONICLE
OF
THE WORLD HEALTH
ORGANIZATION

VOLUME 6, 1952

WORLD HEALTH ORGANIZATION
PALAIS DES NATIONS
GENEVA



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
Medical teaching missions	3
WHO Regional Committee for the Americas	11
Bejel/syphilis control programme in Iraq	14
Review of WHO Publications	
Rickettsioses in Equatorial Africa	15
Third international sulfarsphenamine standard	16
An experiment in evaluating anopheles control	17
The development of pharmacopoeias	17
Retrolental fibroplasia in premature infants	18
World distribution and trend of cerebrospinal meningitis since 1939	19
Reports from WHO Fellows	
Rheumatic diseases in the USA	24
Notes and News	
International symposium on yaws control	26
Expert committee member killed in aeroplane crash	26
New senior adviser for BCG campaign in Egypt	27
Biochemical technician sent to Indonesia	27
Public health adviser appointed for Iran	27
Dr M G Candau to leave WHO Headquarters	27
WHO veterinary consultants on missions	28
Training course in insect control postponed	28

SCHEDULE OF MEETINGS

- 7-12 January Expert Committee on Drugs Liable to Produce Addiction third session Geneva
- Included on the agenda of this session were morphine derivatives synthetic substances (synthetic derivatives of the morphinan pethidine and methadone types and diethenylbutylamines) *Cannabis sativa* L. barbiturates and amphetamine and its derivatives. If approved by the Executive Board the committee's report will be published in the *World Health Organization Technical Report Series*.
- 7-19 January Executive Board Standing Committee on Administration and Finance Geneva
- 21 January Executive Board ninth session Geneva
- 9 February
- The Executive Board and its Standing Committee on Administration and Finance in addition to discussing the programme and budget for 1953 are dealing with two special questions: a proposal that the World Health Assembly be held biennially instead of annually and an examination of the WHO publications programme. The report on the ninth session will be published in number 40 of the *Official Records of the World Health Organization*. A brief account will appear in a forthcoming number of the *Chronicle*.
- 11-12 February UN Working Party on Insecticides Geneva
- In accordance with a resolution of the Economic and Social Council of the United Nations a working party composed of representatives of governments is meeting to study the world position with regard to the supply and requirements of DDT and BHC and if a significant shortage is revealed to recommend means of alleviating this shortage. The United Nations in collaboration with WHO and FAO will place before the working party such basic statistical data as are available.

MEDICAL TEACHING MISSIONS

Origin and Development

Medical teaching missions are among the newest types of medical educational projects yet for WHO they are among the oldest in which the Organization has engaged. The first two projects of this nature were organized by UNRRA and by the Unitarian Service Committee (USC) of the USA in order to re establish contact between American scientists and those of some of the European countries occupied by the Germans during the second World War. Medical teaching missions to Czechoslovakia and to Poland resulted in 1946. Before UNRRA withdrew from the international scene it recommended to the Interim Commission of the World Health Organization that WHO carry on such activities which had proved very successful. In following up this recommendation a medical teaching mission was sent to Austria in 1947 under the joint sponsorship of the WHO Interim Commission and the USC¹. At the instigation of WHO the staffs of the missions became more international in character: thus two Swiss scientists joined the eight American professors who visited Austria. The following year when similar missions were sent under joint WHO/USC auspices to Finland, the Philippines and Poland scientists from Argentina, Costa Rica, Czechoslovakia, Sweden, Switzerland, the United Kingdom and the USA participated.

Between 1948 and 1951 the USC acting alone sponsored medical teaching missions to Colombia, Germany, Greece, Italy and Japan. In September and October 1951 a joint WHO/USC medical teaching mission was sent to Israel and Iran. Similar missions sponsored solely by WHO are to visit Burma and Ceylon in February and March 1952.

Organization and Activities

Medical teaching missions varying in size from eight to fourteen members consist of scientists of international reputation who occupy prominent teaching positions in their home countries. An ad hoc "travelling faculty" is formed for the purpose of informal exchange of ideas and information between visiting and local scientists. Postgraduate training courses are as a rule also conducted by the visiting professors in close co operation with the faculties of the host medical schools. The length of the visit to each school does not exceed three to four weeks, the duration of a stay in any one country depending on the number of medical schools which it has but never exceeding two months.

Besides the professional teaching staff, a skeleton administrative group consisting usually of an administrator in-charge and one or two secretaries, is included in the mission

Medical teaching missions present numerous organizational problems and require very careful co ordination and planning Since the project is of relatively short duration and involves a considerable expenditure of funds,

FIG 1 MEDICAL TEACHING MISSIONS—I

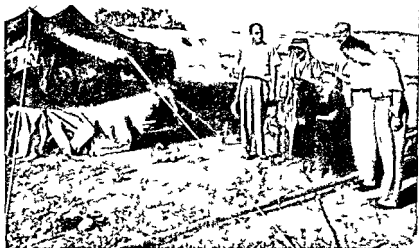


Ward rounds at the Rothschild Hadassah University Hospital Jerusalem Left to right Dr E Joseph head of the Surgery Department at the hospital Dr C Semb member of the teaching mission and two staff physicians

it is essential to make the best possible use of time This requires meticulous preparation on the part of the hosts so that all demonstrations planned by the visitors may be carried out according to a schedule suitable patients have to be assembled for certain surgical operations equipment and instruments have to be provided interested specialists from all parts of the country have to be brought together at the place where the demonstrations are to take place and other arrangements have to be made In some instances local personnel must receive preliminary training through fellowships, in order to be able to benefit fully from the mission's activities An equal amount of planning is needed by the visiting scientists who have to prepare their lectures and teaching materials—e g lantern slides special items of equipment books reprints etc It generally takes from eight months to a year to prepare a teaching mission

Formal teaching like lectures is kept to a minimum. A mission's activities consist largely of informal exchanges of views in the course of ward rounds, small group discussions, seminars and other meetings. Visiting and host surgeons perform operations together; those concerned with the basic sciences spend time in laboratories discussing problems of mutual interest and demonstrating specific techniques; and most important

FIG 2 MEDICAL TEACHING MISSIONS—II



Some of the members of the mission to Israel inspect a bedouin camp

of all specialists, visiting and local, conduct round table discussions on timely topics of particular interest. Such round table conferences are among the most valuable features of medical teaching missions because they take advantage of the presence of a number of highly qualified experts. Subjects at these conferences vary widely: in one instance the subject was "Pain" with physiologists, pharmacologists, anaesthesiologists, internists and surgeons contributing; in other sessions topics such as Pre and Post operative Care and ACTH were discussed.

In some countries there are serious language difficulties, particularly with regard to the formal lectures, which may require the interpretation of highly technical texts. In Israel there was no need for such interpretation since almost everyone had an adequate working knowledge of English, but in Iran lectures given in English had to be translated into Persian. In such cases prepared texts must be sent to the host country ahead of time, which adds one more item to the long list of problems of the preparatory stage.

Besides the professional teaching staff, a skeleton administrative group, consisting usually of an administrator in charge and one or two secretaries, is included in the mission.

Medical teaching missions present numerous organizational problems and require very careful co ordination and planning. Since the project is of relatively short duration and involves a considerable expenditure of funds,

FIG 1 MEDICAL TEACHING MISSIONS—I



Ward rounds at the Rothschild Hadassah University Hospital Jerusalem. Left to right, Dr. E. Joseph, head of the Surgery Department at the hospital; Dr. C. Semb, member of the teaching mission; and two staff physicians.

it is essential to make the best possible use of time. This requires meticulous preparation on the part of the hosts so that all demonstrations planned by the visitors may be carried out according to a schedule. Suitable patients have to be assembled for certain surgical operations; equipment and instruments have to be provided; interested specialists from all parts of the country have to be brought together at the place where the demonstrations are to take place; and other arrangements have to be made. In some instances local personnel must receive preliminary training through fellowships in order to be able to benefit fully from the mission's activities. An equal amount of planning is needed by the visiting scientists who have to prepare their lectures and teaching materials—e.g. lantern slides, special items of equipment, books, reprints, etc. It generally takes from eight months to a year to prepare a teaching mission.

training of auxiliary medical personnel The public health group spent two full months in Israel and besides engaging in teaching acted in an advisory capacity to the Israeli Government on numerous public health problems

Activities and accomplishments

The average working day of the preclinical and clinical group of professors started at 8 a m when all of them met their opposite numbers in their hospitals and laboratories The morning was spent in making ward rounds or in performing operations together or in discussing selected cases and pertinent problems In the laboratory new investigative techniques were discussed and demonstrated Particularly noteworthy in this connexion was a ten day training course for all biochemists of the country in which the staff of the Weizmann Institute for Scientific Research and the professors of the University of Jerusalem participated as well as Professor Theorell—the biochemist of the teaching mission Since each of the nine members of the preclinical and clinical group worked in different places and at all times had at least 12 to 15 local physicians working with them the total number of participants in the morning's instruction discussions or demonstrations was never less than 100

Afternoons were devoted to small group discussions on topics which had arisen during ward rounds or to visiting health installations of various kinds Formal lectures were given in the evenings from 8 to 10 Since no lecture hall was large enough to accommodate the audiences lectures were given in two different places the subjects being selected as far as possible so as not to compete with one another for instance lectures on very technical surgical subjects were given in one hall while medical or paediatric topics were presented in the other Even so the lecture halls were almost always filled to capacity

A few figures may illustrate the work of the preclinical and clinical group of visiting professors

Ward rounds	115
Lectures	50
Conferences	145
Surgical operations	35
Medical films shown	9
Other activities	37

The public health group spent the first four weeks of its visit to Israel in conducting a survey of the entire health situation of the country in the course of which a number of problems were selected to be worked on during the second month of its stay in the country Israeli health authorities had ample opportunity to discuss all their major health problems with the

Mission to Israel

Personnel and organization

The medical teaching mission to Israel was composed of the following

Physiology pharmacology	Dr G K Moe Professor of Physiology, State University of New York Medical Center at Syracuse University Syracuse NY
Biochemistry	Dr H Theorell Professor of Biochemistry Medical Nobel Institute Stockholm
Pathology	Dr P Klemperer Clinical Professor of Pathology Columbia University New York NY
Internal medicine	Dr E Warburg Professor of Medicine University of Copenhagen Copenhagen
Paediatrics	Dr S Z Levine Professor of Paediatrics Cornell University New York NY
General and thoracic surgery	Dr C Semb Professor of Surgery University of Oslo Oslo
Neurosurgery	Dr L M Davidoff Clinical Professor of Neurosurgery New York University New York NY
Orthopaedic surgery	Dr H Osmond Clarke Honorary Surgeon and Assistant Director the Orthopaedic and Accident Hospital London
Radiology	Dr L G Rigler Professor of Radiology University of Minnesota Minneapolis Minn
Anaesthesiology	Dr L E Morris Assistant Professor of Anaesthesiology State University of Iowa Iowa City Iowa
Adviser on medical education	Dr E Grzegorzewski Professor of Public Health Director Division of Education and Training Services WHO
Public health administration	Dr K Evang Surgeon General of Public Health Oslo
Epidemiology	Dr J E Gordon Professor of Preventive Medicine Harvard University Cambridge Mass
Environmental sanitation	Mr R G Tyler Professor of Sanitary Engineering University of Washington Seattle Wash

This teaching team headed by Dr Davidoff and Dr Evang as Chairman and Vice Chairman respectively although its members worked in close co operation was subdivided into three smaller groups according to the three main functions which the mission had to fulfil (1) a preclinical and clinical group, consisting of the first nine members listed above (2) an advisory group on medical education led by Professor Grzegorzewski and composed of Professors Levine Warburg and Gordon and (3) a public health group led by Dr Evang and consisting of the last three members listed above. The first group was more or less concerned with purely academic activities and gave postgraduate courses in nine subjects. The advisory group on medical education conducted a week's conference attended by all those in Israeli circles who were interested in problems of education, including undergraduate and postgraduate education and the

medical life or public health effort on which the visiting group did not have an opportunity to exert its stimulating influence

Mission to Iran

The medical teaching mission which went from Israel to Iran last October was smaller than the group which had visited the former country. There was no public health group and the specialities of pathology and orthopaedic surgery were not included in the programme. The advisory function on medical education was reserved for a later date. In April 1952 two experts—Professors C. Heymans of Ghent and P. Combe male of Lille—will join Professor Grzegorzewski in discussing with the Iranian Government and academic circles the medical educational problems that exist particularly in the four schools outside Teheran namely at Meshed, Tabriz, Shiraz and Ispahan.

The activities of the group which went to Teheran last October were very similar to those described in connexion with the mission to Israel. The faculty at Teheran prepared a number of fine seminars which gave the visiting experts a chance to learn a great deal about medical and health problems specific to Iran and other countries in the Middle East.

Evaluation of Teaching Missions

The experience gained with medical teaching missions over the past five years has shown that this is an educational technique *sui generis*. It cannot in any way substitute or supplant other time honoured techniques such as training through fellowships, visiting or exchange professorships, travel grants, etc. On the other hand it can accomplish a number of objectives that none of these techniques can easily achieve. The stimulative impact of the visit of such sizeable groups of outstanding experts as those that compose medical teaching missions is extremely valuable. The diverse activities of a teaching mission if carefully integrated and selectively applied according to a country's needs extend into virtually all aspects of medical and health work—into teaching, research and public health administration.

The word *teaching* is a rather misleading term as applied to this type of project since both visiting and local scientists teach and learn at the same time. There is truly an *exchange* of scientific information and ideas in the course of a teaching mission. In addition the personal contacts established between visiting and local scientists and between the schools they represent last for many years, being maintained by correspondence, exchange of reprints and other publications and visits of faculty members.

visiting experts and to obtain the advice and recommendations which they sought

The work of the public health group does not lend itself to being expressed in terms of figures. This group too, however, gave a series of lectures and held many seminars, in addition to engaging in numerous other activities, all of which are recorded in a 160 page report. The topics

FIG 3 MEDICAL TEACHING MISSIONS—III



Dr S Z Levine paediatrician of the mission makes ward rounds at Teheran

discussed in the seminars which were extremely well attended, give some idea of the range of problems which this group handled

- 1 Immunization, specific prevention of communicable diseases

- 2 Medical activities in securing adequate nutrition

- 3 Rural sanitation and communicable diseases

- 4 Health problems relating to reproduction

- 5 Enteric infections

- 6 Epidemiology of accidents

- 7 Health problems relating to immigrants and moving populations

- 8 The scientific method applied to health practice

The week's conference on medical education was of particular interest to the Israeli medical profession. For the first time all component parts of the complicated

medical organizational structure met to devise a common course. The university, the medical association, the Government and the Kupat Cholim (health insurance organization) explored all the existing problems with the assistance of the visiting professors. It is believed that in the long run, these conferences may show some of the most lasting results of the visit of the medical teaching mission.

Considering all the visiting team's activities and the attendance at lectures given in Haifa, Tel Aviv, and Jerusalem, hundreds of Israeli physicians benefited from the mission's work. There was no segment of Israeli

WHO REGIONAL COMMITTEE FOR THE AMERICAS

Fifth Session

The Directing Council of the Pan American Sanitary Organization (PASO) which also acts as WHO Regional Committee for the Americas held its fifth session from 24 September to 3 October 1951 at Washington D C Present were representatives of 24 countries—the 21 American republics and France the Netherlands and the United Kingdom—as well as observers from Canada and various intergovernmental and non governmental organizations Dr N Romero y Ortega Director General of Health of the Ministry of Public Health and Social Security of Chile was Chairman and Dr P H Peña Minister of Public Health and Social Welfare of Paraguay and Dr L Somarrriba Minister of Public Health of Nicaragua were Vice Chairmen Dr M E Bustamante Secretary General of the Pan American Sanitary Bureau (PASB) served as Secretary ex officio

Programme

Of principal interest at the meeting was the adoption of public health programmes to be carried out by the Pan American Sanitary Bureau as WHO Regional Office for the Americas in 1952 in co operation with the health authorities of the countries of the Americas Emphasis will be placed on maternal and child health projects In this connexion the Directing Council instructed the Director of the PASB Dr F L Soper to take measures to strengthen and develop further the WHO programmes for the benefit of children now being carried out in co operation with FAO UNICEF and other agencies of the United Nations The Council also asked the Director to try to bring about closer co-operation and to facilitate negotiations between technical assistance bodies and technical institutions so that child health programmes may be developed more effectively throughout the region

The Bureau's public health nursing programme will be continued through 1952 and will include the conducting of nursing workshops—intensive training seminars for public health nurses Work in nutrition public health administration sanitary engineering and veterinary public health will be continued or expanded Considerable attention will be given to the control of venereal diseases this to entail the operation of serological laboratories and training centres and the maintenance of prophylaxis stations Steps will be taken to further the Bureau's policy of combining into a single broad, insect-control programme the fight against various individual insect borne diseases—malaria yellow fever typhus Chagas disease and others

Medical teaching missions thereby establish permanent channels of scientific communication

One more aspect of the medical teaching missions deserves mention. In all instances the general public of the countries visited has taken the greatest interest in the activities of the members of the mission. Through the daily press and the radio, the public is kept informed about the work being carried on jointly by their own scientists and by their guests. An

FIG 4 MEDICAL TEACHING MISSIONS—IV



Dr E Warburg examines a curious patient during a demonstration at Teheran

inestimable amount of goodwill and mutual understanding is generated by the efforts of all those who either go to foreign lands or who receive visitors open mindedly in order to improve health standards. Scientists from Denmark, Norway, Sweden, the United Kingdom and the USA made up the team which went to Israel and Iran. This year scientists from Belgium, Canada, Denmark, Holland, Sweden, the United Kingdom, the USA and Yugoslavia will visit their colleagues in Ceylon and Burma.

In spite of the magnitude of the effort and the considerable expenditure of funds involved, medical teaching missions have become very popular with governmental and academic circles in many countries, as the impressive number of such projects and continuing requests for them seem to indicate.

Insecticides Supply Problem

In view of the relatively limited supply of DDT and other insecticides containing chlorine the Council requested the Bureau urgently to invite all member countries to report before 31 December 1951 their quota requirements up to 30 June 1952. Such requests must be accompanied by a deposit of the funds to meet their cost. Member Governments will also be requested by the Bureau to indicate before 1 March 1952 their estimated insecticide requirements for the period from 1 July 1952 to 30 June 1953.

The Council extended a vote of thanks to the Government of the USA, which last July established a high priority for export permits for DDT and its formulations destined for public health programmes stipulating however that orders must be placed only during the last half of each calendar year when the seasonal demands for insecticides in the USA are at a minimum.¹

International Sanitary Regulations

Action was taken for revision of the Pan American Sanitary Code—which was signed in Havana, Cuba, in 1924 by the 21 American republics—so that it might conform with the International Sanitary Regulations adopted by the Fourth World Health Assembly in May 1951.² After considerable discussion the Council recommended to the signatories of the *Pan American Sanitary Code* the addition thereto of a protocol providing for abrogation of certain articles many of which are now inadequate and therefore need suitable revision. It further recommended that all the American republics take appropriate measures for applying the new International Sanitary Regulations which it was stated are vested with the full and mandatory force of a convention voiding previous conventions and treaties and serving in fact as a revision of all those that are in any manner contrary to the new rules thus established.

In compliance with a request made to WHO regional committees by the Fourth World Health Assembly the Council resolved to bring to the attention of the health authorities of the Americas WHO's recommendation urging all governments to improve sanitary and environmental conditions to prevent the spread of quarantinable diseases especially in the area of ports and airports.³

Ch. *World Health Org.* 1951, 5, 277
 CA. *World Health Org.* 1951, 5, 179
 Ch. *World Health Org.* 1951, 5, 181, 18

Seventy six public health field programmes are now being conducted by or are receiving technical orientation from, the PASB, 42 other programmes are in various stages of negotiation

Emphasis was laid at the meeting on long range planning as one of the most important factors in maintaining essential continuity of operations in the public health projects being carried out in the Americas. The Council requested the Director to evaluate the needs of the various member countries of the region indicating the priority for each need, and to present to a future meeting of the Council an overall, long range programme for the Organization based on his findings. Insect eradication projects were mentioned as deserving the highest priority

Budget and Finance

The 1952 budget adopted at the meeting amounted to approximately \$1,940,000. This is to finance the operation of the field programmes, of the Washington headquarters and of field offices in Guatemala City, Lima, Peru, Rio de Janeiro, Brazil, El Paso, Texas, and Buenos Aires, Argentina. Funds for public health programmes in the Americas in 1952 will be considerably larger than the amount budgeted, however, since WHO's allocation to the Bureau for the year will be about \$935,000. In addition, funds will be made available for specific projects through technical assistance programmes UNICEF, and other international organizations.

In its capacity as Regional Committee of WHO the PASO Directing Council reviewed the Regional Director's proposed 1953 WHO budget amounting to \$1,061,000 which the Council found to provide for an adequate well balanced programme and which is to be submitted to the Director General for action at WHO Executive Board meetings and at the Fifth World Health Assembly.

In connexion with long range planning the Council desired that corresponding preliminary budgetary planning be made at least two years in advance. Consideration must be given in such planning to the ability of the governments to finance budgets as well as to the public health work planned or being conducted by Member Governments and other organizations.

The Council adopted a system for assessing the three European States—France, the Netherlands and the United Kingdom—that have an interest in the non self governing territories in the Americas and granted representatives of those States the right to vote in the Council meetings on budgetary matters of the PASO provided this vote be contingent upon an equitable contribution being made by them to the PASO budget.

FIG 5 BEJEL/SYPHILIS PROGRAMME



Woman and child suffering from syphilis or bejel infection Note the child's forehead

Review of WHO Publications

RICKETTSIOSES IN EQUATORIAL AFRICA

Rickettsial diseases in Africa have been the subject of considerable study in recent years. In 1950 a joint OIHP/WHO study group discussed various aspects of these diseases and reviewed the results of research on them ¹ in the same year a study was also undertaken by Dr M J Freyche and Mr Z Deutschman of WHO and was published in the *Epidemiological and Vital Statistics Report*. A recent contribution to knowledge on this subject has been made by Dr Paul Giroud, Chief of the Rickettsioses Service at the Institut Pasteur in Paris whose personal observations on

¹ The present study is published in the *Journal of Tropical Medicine and Hygiene* 1950 23, see also *Chronic Diseases of the Tropics* 1950 4 291.
Epidemiol. Infect. 1950 3 161. 10 Ch. H. J. H. O. G. 1951 5 0.

Inter-American Congress of Public Health

In preparation for the First Inter-American Congress of Public Health to be held under the joint sponsorship of the Government of Cuba and PASB from 27 September through 1 October 1952, in Havana, Cuba the Council selected two topics for discussion at the Congress "Organization and integration of public health services by (a) recognition of public health as a career, and (b) full time employment and adequate remuneration in public health work", and "Progress achieved in the treatment and control of disease". Among the official items on the Congress agenda is rural sanitation. Experts are to be invited to develop the topics selected by the Directing Council.

The Congress will also celebrate the Fiftieth Anniversary of the founding of PASB and, at the same time, pay homage to Dr C. J. Finlay, the Cuban scientist who made important contributions leading to the discovery of the yellow fever vector.

The Directing Council will hold its next meeting in Havana, Cuba from 19 to 24 September 1952, immediately before the opening of the First Inter American Congress of Public Health.

BEJEL/SYPHILIS-CONTROL PROGRAMME IN IRAQ

Several noteworthy developments have been reported in the bejel control project which has been in operation in Iraq for a little over a year¹. In July 1951, postgraduate training courses were given to international and national team members and to a WHO fellowship candidate from Pakistan. In August a new venereal-disease dispensary was opened. October saw the launching of a mass treatment programme, the object of which is to treat between 40 000 and 50,000 cases annually during the next three years. In November, the appointment of an x ray technician was announced. Mr M. A. A. Halim, x ray technician from the Institute of Radiology, Kasr el Aini Hospital, Cairo, joined the project to train other x ray technicians and to take x ray pictures of the heart and bones of bejel patients. It is hoped by means of these x rays to further knowledge of bejel by investigating whether or not there are cardiovascular and osteal changes in advanced cases of bejel similar to those found in syphilis.

The Iraq bejel/syphilis programme is a joint undertaking of UNICEF, the Ministry of Social Affairs of Iraq and WHO. It combines a practical field programme against bejel with scientific research to determine better control measures.

standard preparation will be necessary. The authors suggest that the dose of the standard preparation be 1.05 times that of the test preparation for the assay of toxicity and 0.8 times that of the test preparation for the assay of potency.

AN EXPERIMENT IN EVALUATING ANOPHELES CONTROL

In an article in the *Bulletin of the World Health Organization*¹ C. Garrett Jones, WHO entomologist, describes an experiment undertaken in North Iran to trap mosquitos and thus to assess their control by residual DDT. Over 2 700 specimens of *A. maculipennis* were collected from ten outlet traps in the period from August to October 1950.

Sixteen villages were sprayed with DDT in several forms: 5% technical DDT powder in kerosene solution, 75% and 50% wettable powders in water suspension, and 50% "DDTane" wettable paste in water suspension. All these were applied to leave 2 g of DDT per m² of treated surface except in two villages where the 75% powder suspension was applied at a rate of only 1 g per m².

Following each type of treatment a reduction in trap catches of between 76% and 91% was noted during the first five days. Over longer periods the catches continued to decline in all the traps but it is not certain to what extent this might be attributed to a lowering of seasonal incidence. Noteworthy was the fact that the reduction in trap catches was confined almost entirely to the evening collections, morning collections being affected little if at all. This indicated that while specimens resting indoors by day were killed on the spot by the DDT, many more having had no previous contact with the DDT probably entered rooms at night and left again without experiencing lethal contact.

The experiment described by Mr. Garrett Jones showed that it was possible to assess the effects on mosquitos of residual spraying by analysing the catches in outlet traps. The technique employed, one which appears to have been used but little in studying the *Anopheles maculipennis* complex, also yielded information about the endophilic habits of this mosquito in the locality studied.

Bull. W. H. O. 1951, 4, 547 (Article in English with summary in English and French)

THE DEVELOPMENT OF PHARMACOPOEIAS

To mark the publication by WHO on 30 October 1951 of volume I of the *Pharmacopoea Internationalis*¹ Professor George Urdang, of the

¹ Published in English and French editions. Specimens for preparation. See *Chron. World Health Org.* 1951, 5, 255.

rickettsioses in Equatorial Africa appear in the latest number of the *Bulletin of the World Health Organization*³

After describing the technique of the two diagnostic tests which he utilized in his investigations—the agglutination and skin hypersensitivity tests—Dr Giroud discusses the various forms of exanthematic fever which he found to be prevalent in Equatorial Africa epidemic typhus in Ruanda and in the Cameroons Ubangi area, rickettsioses of the boutonneuse and murine types in the Middle Congo where others caused perhaps by *Rickettsia orientalis*, also exist benign toxoplasmoses, clinically similar to boutonneuse fever with eschar, and Q fever, prevalent especially among cattle raising tribes Aborigines in Ubangi Shari, who hunt rodents, were found to be particularly susceptible to the boutonneuse and murine antigens Q fever antigen was discovered in cow's milk, in dog and cattle ticks (*Rhipicephalus sanguineus*, *Haemaphysalis leachi*, *Amblyomma variegatum*) and in lice (*Pediculus corporis*) Inhabitants of the Ruanda Urundi territory gave both positive cutaneous reactions and positive complement fixation reactions to the *R. orientalis* antigen

Bull. World Hlth Org. 1951 4 535 (Article in French with summary in English and French)

THIRD INTERNATIONAL SULFARSPHENAMINE STANDARD

M G Davies A A Miles, and W L M Perry, of the National Institute for Medical Research London, report, in the *Bulletin of the World Health Organization*¹ on biological assays of a batch of sulfarsphenamine for the proposed third international standard These assays which were carried out by six laboratories in five countries (Denmark, France, the Netherlands, the United Kingdom and the USA) were all subjected to probit analysis and the results were combined Twelve valid assays for toxicity and nine for therapeutic potency were made by the prescribed methods, which are described in an annex to the article

In terms of the second international sulfarsphenamine standard the toxicity of the third international sulfarsphenamine standard is estimated to be 114%, with limits of error ($P=0.05$) of 108% to 120% the therapeutic potency is estimated to be 95% with limits of error ($P=0.05$) of 89% to 101%

Modification of the methods of assay recommended by the *Pharmacopoea Internationalis* (Ph I) may prove to be necessary when the new standard is established If the stringency of the Ph I assays for toxicity and potency is to be maintained certain adjustments in the recommended doses of the

¹ *Bull. World Hlth Org.* 1951 4 563 (Article in English with summary in English and French)

Clinical symptoms of retrolental fibroplasia are usually observed when the afflicted infant is between three and six months old. Both eyes are generally affected and partial or complete blindness results. Ophthalmoscopic examination may reveal a shallow anterior chamber, a greyish white opaque membrane behind the crystalline lens of both eyes, thin ciliary processes in front of the opaque tissue, a persistent hyaloid artery, retinal haemorrhage and retinal separation. Retrolental fibroplasia of prematurity must be differentiated from a number of other conditions, most important of which are retinoblastoma and congenital cataract, both of which are usually apparent at birth and are usually unilateral.

The cause of retrolental fibroplasia has not been determined. Efforts at prevention have been unsuccessful and the different types of therapy which have been tried—surgery, roentgen irradiation, drugs and most recently ACTH—have not been encouraging.

WORLD DISTRIBUTION AND TREND OF CEREBROSPINAL MENINGITIS SINCE 1939

Since the last studies on the evolution of cerebrospinal meningitis throughout the world had appeared in 1938 and 1939 in the *Weekly Epidemiological Record* of the Health Organization of the League of Nations,¹ a recent article by Dr M J Freyche, Chief of WHO's Epidemiological Information Section, published in the *Epidemiological and Vital Statistics Report*² fills quite a gap. Furthermore, the author does not confine himself to analysing and commenting on the statistical data furnished by a great number of countries during the last decade; he draws conclusions with regard to the epidemiological constants of the disease and makes an interesting contribution to the study of its periodicity.

Incidence on Various Continents

One fact emerges strikingly from the statistics: Africa remains the continent most affected by cerebrospinal meningitis. To give some idea of its incidence there, it is sufficient to note that the number of deaths in Nigeria in 1949 was about as high as the number of cases notified in the whole of Europe during the same year. It may be said that tropical Africa is the favourite resort of the disease. It seems that cerebrospinal meningitis has been established there for 20 to 30 years, showing a marked

University of Wisconsin School of Pharmacy, prepared for the *Bulletin of the World Health Organization* an account of the origins, nature and development of pharmacopoeias² His review traces the history of pharmacopoeias from the first official application of the term, in 1573, to the *Pharmacopoeia Augustana*, a legally enforced pharmaceutical guide for the pharmacists and physicians of the City of Augsburg to the recently published international pharmacopoeia A table gives the years of publication of the first editions of 45 national pharmacopoeias

Professor Urdang suggests the following general definition for a pharmacopoeia

"A pharmacopoeia in the modern sense of the word is a pharmaceutical standard intended to secure uniformity in the kind quality composition and strength of remedies approved or at least tolerated by the representatives of medicine within a particular political unit and made obligatory for this unit especially for its pharmacists by the authorities concerned

The compilation of the modern pharmacopoeia requires the co operation of many different kinds of experts A desire to extend such co operation across national frontiers so as to obtain a universally recognized standard of drugs led to the convening in 1865, of the first International Pharmaceutical Congress In 1902 the first International Agreement for the Unification of the Formulae of Potent Drugs was drawn up, a second similar Agreement was completed in 1929 In 1937 the Health Organization of the League of Nations appointed a Technical Commission of Pharmacopoeial Experts to prepare a draft Agreement including general rules, tables of usual and maximal doses and monographs on drugs common to a number of national pharmacopoeias After the war, this work was taken over by the Interim Commission of the World Health Organization, which established an Expert Committee on the Unification of Pharmacopoeias to continue the task of the League's Technical Commission and to prepare the text of the first international pharmacopoeia

Bull World Hlth Org 1951 4 577 (Article in English with summary in English and French)

RETROLENTAL FIBROPLASIA IN PREMATURE INFANTS

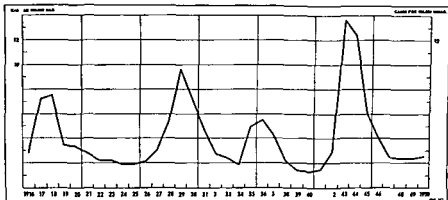
A review of the literature on retrolental fibroplasia, an abnormal eye condition which occurs most commonly in premature infants has been prepared by Dr Ethel C Dunham WHO consultant on maternal and child health and published in the *Bulletin of the World Health Organization*¹

Bull World Hlth Org 1951 4 605 (Article in English with summary in English and French)

in the USA the interval is about eight years with variations up to twelve years. The curve cannot be considered as a regular sinusoid: it rises fairly rapidly in two to four years and then drops more slowly.

The disease proceeds by regular seasonal waves reaching the annual maximum in March or April (sometimes February or May) and the minimum between June and November in the countries of the Northern hemisphere. In the Southern hemisphere on the other hand this seasonal

FIG. 6. CEREBROSPINAL MENINGITIS MORBIDITY RATES IN USA 1916-50



Rates based on a varying number of States (22 to 37 before 1926, 40 from 1926 to 1938, 43 since 1939)

movement is inverted, as may be seen from the curve referring to the Union of South Africa (fig. 8). On the Equator in countries like Uganda the seasonal variations are hardly noticeable.

No satisfactory explanation has yet been found for these two forms of periodicity. Some attempt has been made to explain the seasonal alternations in hot climates as being due to local factors such as sand winds and the displacement of populations with the return of the dry seasons. But comparison of the 1949-51 periodicity curve for Africa with those for the European and American countries of the Northern hemisphere is sufficient to show that there is an undeniable seasonal variation which holds true for both groups of countries and which therefore is independent of local conditions.

It seemed of interest to inquire whether the cyclical variation had been affected during the course of the past decade by mobilization and population movements which, as was already known, are important factors in the propagation of infection. It appears in fact that in some countries mobilization measures did bring about an increase in incidence of the disease. In France, for example, a hyperendemic outbreak coincided with the 1944

preference for the territories on the southern and northern borders of the great equatorial forest. In Egypt, after a few brief outbreaks during the preceding years the infection became established in 1917 and has since been present in more or less serious epidemic form.

There have been three successive and increasingly serious outbreaks in Africa during the period under consideration—the first in 1939–40, the second in 1945–6 and the third particularly serious, which began in 1948. As has already been observed, the countries most affected, with the exception of Egypt, are situated between the latitudes 5° N and 15° N, i.e., in the region of the savannahs and sparse forests.

Some figures will suffice to illustrate the intensity of the recent epidemics. In Dahomey, the annual number of cases between 1940 and 1945 did not exceed 10. In 1948, the figure rose to 4,134 (649 deaths) and in 1949 to 6,730 (801 deaths), in 1950, it dropped to 2,046 (288 deaths). In the Anglo Egyptian Sudan the figures for the first half of 1951 were higher than those for the epidemic outbreaks over the preceding 11 years. It is a curious fact that in the province of Darfur, which is relatively sparsely populated (2.5 inhabitants per square kilometre), the highest number of cases was notified in relation to the size of the population.

In the other continents, morbidity is much lower than in Africa. For example, in the USA 1,665 cases were notified in 1940 and 18,221 in 1943, a highly epidemic year, in 1950 the figure dropped to 3,699.

Although no figures are available for some important areas of Asia for certain years, it is possible to state that cerebrospinal meningitis is not very frequent on this continent. However, slight outbreaks were notified in 1939 in Cyprus, in 1940 in Indochina, and in 1944 in China.

Since 1947 the average number of cases notified annually for all the European countries concerning which statistics are available has not exceeded an average of about 10,000. The incidence of the disease is diminishing from year to year in the Federal Republic of Germany, Finland, France, Italy, the Netherlands, Spain, Sweden, Switzerland, and Turkey. In 1950 outbreaks occurred in England and Wales and in Norway, there was an epidemic in Greece and incidence remained high in Yugoslavia.

The morbidity rate during the period 1941–4 was high in Australia and New Zealand where the total number of cases reached 5,849 (855 deaths) and 1,584 (224 deaths), respectively.

Periodicity of the Disease

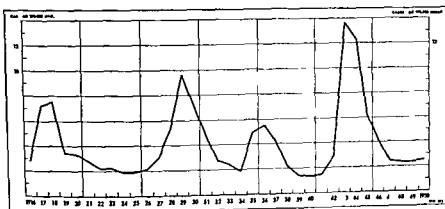
Morbidity

As is clearly shown by the statistics from countries in which registration of cases has been the rule for many years, incidence of cerebrospinal meningitis is periodically high. Thus in the USA peaks were observed in 1905, 1912, 1917–8, 1929, 1935–6 and 1943–4 (fig. 6). In Denmark, as

in the USA the interval is about eight years with variations up to twelve years. The curve cannot be considered as a regular sinusoid: it rises fairly rapidly in two to four years and then drops more slowly.

The disease proceeds by regular seasonal waves reaching the annual maximum in March or April (sometimes February or May) and the minimum between June and November in the countries of the Northern hemisphere. In the Southern hemisphere on the other hand this seasonal

FIG 8 CEREBROSPINAL MENINGITIS MORBIDITY RATES IN USA 1916-1950



Rates based on a varying number of States (22 to 37 before 1926, 40 from 1926 to 1938, 48 since 1939)

movement is inverted as may be seen from the curve referring to the Union of South Africa (fig 8). On the Equator in countries like Uganda the seasonal variations are hardly noticeable.

No satisfactory explanation has yet been found for these two forms of periodicity. Some attempt has been made to explain the seasonal alternations in hot climates as being due to local factors such as sand winds and the displacement of populations with the return of the dry seasons. But the comparison of the 1949-51 periodicity curve for Africa with those for the European and American countries of the Northern hemisphere is sufficient to show that there is an undeniable seasonal variation which holds true for both groups of countries and which therefore is independent of local conditions.

It seemed of interest to inquire whether the cyclical variation had been affected during the course of the past decade by mobilization and population movements which as was already known are important factors in the propagation of infection. It appears in fact that in some countries mobilization measures did bring about an increase in incidence of the disease. In France for example a hyperendemic outbreak coincided with the 1944

preference for the territories on the southern and northern borders of the great equatorial forest. In Egypt, after a few brief outbreaks during the preceding years, the infection became established in 1917 and has since been present in more or less serious epidemic form.

There have been three successive and increasingly serious outbreaks in Africa during the period under consideration—the first in 1939-40, the second in 1945-6, and the third particularly serious, which began in 1948. As has already been observed, the countries most affected, with the exception of Egypt, are situated between the latitudes 5° N and 15° N, i.e., in the region of the savannahs and sparse forests.

Some figures will suffice to illustrate the intensity of the recent epidemics. In Dahomey, the annual number of cases between 1940 and 1945 did not exceed 10. In 1948 the figure rose to 4,134 (649 deaths) and in 1949, to 6,730 (801 deaths), in 1950, it dropped to 2,046 (288 deaths). In the Anglo-Egyptian Sudan the figures for the first half of 1951 were higher than those for the epidemic outbreaks over the preceding 11 years. It is a curious fact that in the province of Darfur, which is relatively sparsely populated (2.5 inhabitants per square kilometre) the highest number of cases was notified in relation to the size of the population.

In the other continents morbidity is much lower than in Africa. For example, in the USA 1,665 cases were notified in 1940 and 18,221 in 1943, a highly epidemic year, in 1950 the figure dropped to 3,699.

Although no figures are available for some important areas of Asia for certain years, it is possible to state that cerebrospinal meningitis is not very frequent on this continent. However, slight outbreaks were notified in 1939 in Cyprus, in 1940 in Indochina, and in 1944 in China.

Since 1947, the average number of cases notified annually for all the European countries concerning which statistics are available has not exceeded an average of about 10,000. The incidence of the disease is diminishing from year to year in the Federal Republic of Germany, Finland, France, Italy, the Netherlands, Spain, Sweden, Switzerland, and Turkey. In 1950 outbreaks occurred in England and Wales and in Norway; there was an epidemic in Greece, and incidence remained high in Yugoslavia.

The morbidity rate during the period 1941-4 was high in Australia and New Zealand, where the total number of cases reached 5,849 (855 deaths) and 1,584 (224 deaths) respectively.

Periodicity of the Disease

Morbidity

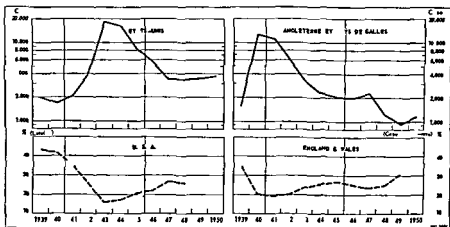
As is clearly shown by the statistics from countries in which registration of cases has been the rule for many years, incidence of cerebrospinal meningitis is periodically high. Thus in the USA peaks were observed in 1905, 1912, 1917-8, 1929, 1935-6 and 1943-4 (fig. 6). In Denmark, as

and 1945 military operations. Similar observations appear to confirm that mobilization and war may intensify the extent of an outbreak when it occurs within the natural periodicity limits.

Case fatality rate

Data concerning the case fatality rate—i.e. percentage of deaths in relation to the number of cases notified—in 18 countries and territories for the period 1939-50 are quite varied. At first glance it would seem impossible to make any comparison between them on an international

FIG. 9. VARIATION IN CEREBROSPINAL MENINGITIS INCIDENCE AND CASE FATALITY RATE IN USA AND IN ENGLAND AND WALES



scale. However, we know that the statistical mortality rate in a given country often varies in inverse ratio to the seasonal incidence of the disease.

The author asked himself whether there might be a periodic or cyclical movement of case mortality in inverse ratio to morbidity. Some previously observed facts first of all suggested that this hypothesis might be well founded. In New York State during the epidemic years (1928-9, 1936-7) the case fatality rate was 50%; it reached 80% in the "inter-epidemic" years (1925-6 and 1933-4). The curves shown in fig. 9 demonstrate the evolution of morbidity and of case fatality rate from 1939 to 1950 in the USA and in England and Wales and show very clearly that the years of high incidence were the years of low case fatality rate, and that the case fatality rate has increased since 1943 in the USA and since 1940-1 in England in spite of the general application of new therapeutic methods. For this periodicity of case fatality rate in inverse ratio to the morbidity rate as well as for the seasonal periodicity no explanation has yet been found.

FIG 7 SEASONAL DISTRIBUTION OF CEREBROSPINAL CASES IN AFRICA

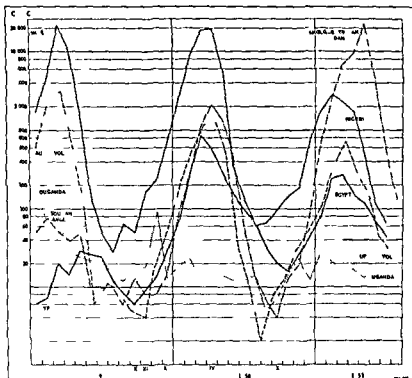
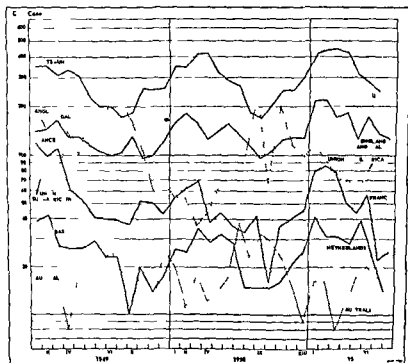


FIG 8 SEASONAL DISTRIBUTION OF CEREBROSPINAL MENINGITIS CASES IN VARIOUS COUNTRIES *



Foundation had been established throughout the nation and appeals for funds successfully launched. Particular progress has been realized in New England where a programme has been organized which includes lectures, clinical demonstrations and distribution of scientific literature to physicians, fellowships for doctors in remote districts to pursue special studies at teaching centres for from three months to a year, financial support and professional service to arthritis clinics in rural districts and aid for patients in obtaining admission to hospitals.

In comparing facilities for patients suffering from rheumatic diseases in Great Britain and in the USA, Dr Duthie felt that the development of a limited number of special units in connexion with teaching hospitals and universities such as is now taking place in Great Britain would be desirable in the USA.

ACTH and cortisone in the treatment of rheumatic diseases

Dr Duthie found that accumulated experience in the use of ACTH and cortisone in rheumatoid arthritis during the last two years in the USA has led physicians to adopt a much more conservative attitude towards the routine administration of these hormones than was the case when they were first introduced. It has been discovered that in only about one third of the patients who have started this treatment can a useful suppressive effect be maintained at a dose level which causes no undue disturbance. No longer are ACTH and cortisone regarded as substitutes for other forms of treatment.

Research

Dr Duthie was impressed by the research facilities in the USA and by the fundamental and clinical studies on rheumatic diseases which are in progress. In his report he summarizes some of the research projects which he visited or reviewed, specifically those concerning (1) the mode of action of the adrenal steroids in rheumatic diseases, (2) pleuro-pneumonia like organisms in the collagen diseases, (3) blood flow in joints, (4) pathogenesis of gout and (5) chemical structure of fibrinoid. He felt that in the USA as elsewhere there is a need for the clinician to play a more important role in the research team.

Evaluation of tour

The information which Dr Duthie gained in his study tour, which he believes to be invaluable to him in his future work, particularly in the clinical trials of ACTH and cortisone which are being conducted in his unit under the auspices of the British Medical Research Council and the Nuffield Foundation. He feels that the sort of international exchange of knowledge which is afforded by WHO fellowships can have far reaching effects, for as he writes: "Personal contact and discussion are of immeasurable benefit in clarifying ideas, establishing friendly relationships and furthering mutual interest in common problems. International congresses are no real substitute for the more intimate discussions in the informal atmosphere of the hospital lounge, cafeteria or laboratory. Contacts made in these circumstances are much more likely to be maintained with mutual benefit. The greater understanding of common problems both in the scientific sphere and in the wider field of international relationships must surely be of value in these untitled times."

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Rheumatic Diseases in the USA

Dr J J R Duthie Senior Lecturer in Rheumatic Diseases at the Department of Medicine Edinburgh University Scotland was granted a three month travelling fellowship to visit centres concerned with rheumatic diseases in the USA. A summary of some of Dr Duthie's observations follows.

A survey made in 1949 in the USA by a committee of the National Research Council revealed that rheumatic diseases constitute a major social and economic problem that they are in fact the most common cause of chronic illness. It was estimated that some 7 500 000 Americans suffer from arthritis or some other form of rheumatism and that the yearly cost of medical care for these cases is about \$100 000 000.

Clinics and hospital facilities for rheumatic diseases

In 1949 there were only 65 specially endowed beds for arthritic patients in the USA as compared with 100 000 free beds for patients suffering from tuberculosis. Dr Duthie found little evidence that this number of beds for patients with rheumatic diseases has increased to any considerable extent. While most of the hospitals which he visited have arthritis clinics staffed by physicians especially interested in rheumatic diseases few beds are available for patients needing hospital care. When such patients are admitted to the hospital they are usually consigned to a general medical ward and become the responsibility of the visiting ward physician though the treatment given may be prescribed by the physician in charge of the clinic for rheumatic diseases.

In a number of teaching hospitals State grants make it possible for selected patients to be admitted for long term study and treatment for example there are 20 beds thus endowed at the Massachusetts General Hospital in Boston Massachusetts. At the Robert Breck Brigham Hospital also in Boston there are 30 beds available for rheumatic patients and very complete service for these patients is provided including orthopaedic and surgical care. This seems however to be a rare institution and is perhaps the only one of its kind in the USA.

Important aid in the study and treatment of rheumatic diseases is being given through the Arthritis and Rheumatism Foundation which was incorporated in 1948 to (1) formulate and carry out a national programme of research and education in the rheumatic diseases in order to discover the causes and to develop methods of prevention (2) promote more effective methods of diagnosis for sufferers and more facilities for treatment and for training physicians in rheumatic diseases, and (3) provide systematic re training and rehabilitation for those disabled by rheumatic diseases. By 1950 18 Chapters of the

New Senior Adviser for BCG Programme in Egypt

A new senior adviser has been appointed to the BCG vaccination programme which is being assisted by WHO/UNICEF in Egypt. Dr K. Østerskov Jensen of Denmark is replacing Dr E. Roelsgaard who has left to take a similar position in Pakistan. Dr Østerskov Jensen has had considerable experience in BCG vaccination work having been engaged in tuberculosis-control programmes in Austria and Germany before going to Egypt.

The BCG vaccination programme in Egypt was initiated in 1949 with the assistance of the Joint Enterprise and this assistance has been continued by WHO/UNICEF since 1 July 1951. About 13 Egyptian teams plus international personnel are taking part in the programme. By 31 December 1951 more than 2 500 000 persons had been given a tuberculin test and more than 800 000 had been vaccinated with BCG.

Joint Enterprise and WHO/UNICEF assistance has also been given in establishing a BCG vaccine production centre at the Agouza Serum Institute near Cairo. This centre received WHO approval on 15 November 1951 and will thus be able to supply vaccine not only to Egypt but also to other countries.

Biochemical Technician Sent to Indonesia

In an effort to combat malnutrition in Indonesia WHO and FAO under the technical assistance programme have undertaken a project which will aid the Indonesian Government in studying diet deficiencies and organizing school feeding and nutrition-education programmes. Miss M. A. Drost of the Netherlands has been sent to the Eijkman Institute, Djakarta, where as biochemical technician she will assist in the analysis of foodstuffs and of biological material collected for the assessment of nutritional status. Miss Drost's assignment is expected to be of two years' duration.

Public Health Adviser Appointed for Iran

Dr H. L. Larsen of Copenhagen, Denmark, has been sent by WHO to Iran to serve as public health adviser to the Iranian Ministry of Health. Dr Larsen, in addition to being an expert on public health, is a specialist in tropical medicine with 26 years' experience in the Far East. He was formerly Chief Medical Officer of the League of Red Cross Societies for the Palestine refugees. His present assignment is part of a project for the development of the public health services of Iran which is being undertaken with WHO technical assistance.

Dr M. G. Candau to Leave WHO Headquarters

Dr Brock Chisholm, Director General of WHO, has announced that Dr M. G. Candau, Assistant Director General in charge of the Department of Advisory Services, will leave WHO Headquarters upon expiration of his contract. In March 1952 Dr Candau will assume the post of Assistant Director of the Pan American Sanitary Bureau which serves as WHO Regional Office for the Americas.

Dr Candau has been at WHO Headquarters for two years. He was named Assistant Director General in the spring of 1951.¹ In expressing his regret at losing Dr Candau as a close collaborator, Dr Chisholm praised in particular Dr Candau's invaluable assistance in promoting fundamental public health services and in developing WHO's programme of technical assistance to economically underdeveloped areas.

Notes and News

International Symposium on Yaws Control

Announcement has been made of an International Symposium on Yaws Control which is to be held in Bangkok Thailand from 14 to 30 March 1952 under the auspices of WHO in collaboration with the Government of Thailand. During the week following the symposium a field demonstration and training seminar will be conducted utilizing the facilities of the WHO yaws-control team which is working in Thailand. All persons interested in the control of this disease are invited to attend the symposium and the seminar.

The programme will include papers and panel discussions on all phases of modern yaws control. Copies of the programme for the symposium will be available about 1 February 1952 and should be requested from the Venereal Disease Section WHO Palais des Nations Geneva.

Expert Committee Member killed in Aeroplane Crash

Dr K Subrahmanyam member of the WHO Expert Committee on Cholera was killed in late November in an aeroplane crash between New Delhi and Calcutta as he

Fig 10 DR K SUBRAHMANYAM



was returning from a session of the committee. Arrangements had been made for Dr Subrahmanyam who was Professor of Sanitary Engineering and Head of the Department of Sanitary Engineering at the All India Institute of Hygiene and Public Health to join the staff of the WHO Regional Office for South East Asia as its first environmental sanitation adviser.

Dr Subrahmanyam made a real contribution to the solution of the problem of preventing cholera in overpopulated rural areas where pure water and proper sanitation do not exist. He proposed that instead of giving up hope of controlling cholera in such areas because of lack of funds for adequate sanitation schemes efforts should be concentrated on obtaining immediate results by promoting simplified sanitation methods within the means available.

Studies along this line are under consideration by WHO and attempts will be made to implement Dr Subrahmanyam's ideas.

New Senior Adviser for BCG Programme in Egypt

A new senior adviser has been appointed to the BCG vaccination programme which is being assisted by WHO/UNICEF in Egypt. Dr K. Østerskov Jensen of Denmark is replacing Dr E. Roelsgaard who has left to take a similar position in Pakistan. Dr Østerskov Jensen has had considerable experience in BCG vaccination work having been engaged in tuberculosis-control programmes in Austria and Germany before going to Egypt.

The BCG vaccination programme in Egypt was initiated in 1949 with the assistance of the Joint Enterprise and this assistance has been continued by WHO/UNICEF since 1 July 1951. About 13 Egyptian teams plus international personnel are taking part in the programme. By 31 December 1951 more than 2 500 000 persons had been given a tuberculin test and more than 800 000 had been vaccinated with BCG.

Joint Enterprise and WHO/UNICEF assistance has also been given in establishing a BCG vaccine production centre at the Agouza Serum Institute near Cairo. This centre received WHO approval on 15 November 1951 and will thus be able to supply vaccine not only to Egypt but also to other countries.

Biochemical Technician Sent to Indonesia

In an effort to combat malnutrition in Indonesia WHO and FAO under the technical assistance programme have undertaken a project which will aid the Indonesian Government in studying diet deficiencies and organizing school feeding and nutrition-education programmes. Miss M. A. Drost of the Netherlands has been sent to the Eijkman Institute Djakarta where as biochemical technician she will assist in the analysis of foodstuffs and of biological material collected for the assessment of nutritional status. Miss Drost's assignment is expected to be of two years' duration.

Public Health Adviser Appointed for Iran

Dr H. L. Larsen of Copenhagen, Denmark has been sent by WHO to Iran to serve as public health adviser to the Iranian Ministry of Health. Dr Larsen in addition to being an expert on public health is a specialist in tropical medicine with 20 years' experience in the Far East. He was formerly Chief Medical Officer of the League of Red Cross Societies for the Palestine refugees. His present assignment is part of a project for the development of the public health services of Iran which is being undertaken with WHO technical assistance.

Dr M. G. Candau to Leave WHO Headquarters

Dr Brock Chisholm, Director General of WHO, has announced that Dr M. G. Candau, Assistant Director General in charge of the Department of Advisory Services, will leave WHO Headquarters upon expiration of his contract in March 1952. Dr Candau will assume the post of Assistant Director of the Pan American Sanitary Bureau which serves as WHO Regional Office for the Americas.

Dr Candau has been at WHO Headquarters for two years. He was named Assistant Director General in the spring of 1951¹. In expressing his regret at losing Dr Candau as a close collaborator, Dr Chisholm praised in particular Dr Candau's invaluable assistance in promoting fundamental public health services and in developing WHO's programme of technical assistance to economically underdeveloped areas.

WHO Veterinary Consultants on Missions

India Iraq the Hashemite Kingdom of the Jordan Lebanon Northern and Southern Rhodesia Syria and perhaps Ceylon have been or will be visited by Dr E. S. Tierkel WHO consultant on rabies Dr Tierkel who is primarily concerned with the production and testing of rabies vaccines and with the field control of the disease in dogs and wild animals will give advice to the governments of these countries on rabies-control problems Dr Tierkel has been lent to WHO by the US Public Health Service for which he directs rabies-control activities at the Communicable Disease Center Savannah Ga He acted as a WHO consultant for three months in 1951 and will possibly undertake WHO assignments for an equal period during 1952 In addition to carrying out field missions Dr Tierkel is laying the groundwork for a training course in rabies control for the Eastern Mediterranean Region which is scheduled to be given in Iran in 1952

Another veterinary consultant Dr H. Thornton has under the auspices of WHO and FAO surveyed and given advice on meat hygiene practices in Greece and Italy and is expected to undertake similar missions in Iran Iraq Israel Turkey and several countries in Latin America The Israeli Ministries of Health and Agriculture have requested that Dr Thornton spend three weeks in Israel to advise them on meat inspection and to give a series of lectures to veterinarians Dr Thornton a well known authority on meat inspection is Chief Veterinary Officer of the City and County of Newcastle-on Tyne His services have been made available to FAO and WHO for ten months

Training Course in Insect Control Postponed

The training course in insect control which was to have begun in Rio de Janeiro in late October¹ has been indefinitely postponed

¹ *Ch on World Hlth Org* 1951 5 303



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
First European seminar on alcoholism	31
Population control	33
Medical certification of cause of death	35
Achievements of a malaria control team in India	38
Second seminar for European sanitary engineers	40
Programme of yaws-control symposium	42
Reports of Expert Groups	
Prevention and treatment of severe malnutrition in times of disaster	44
Review of WHO Publications	
World population has doubled in a century	46
Trend of scarlet fever in recent years	48
Reports from WHO Fellows	
Environmental sanitation in certain European countries	50
Notes and News	
Regional Directors for Europe and Africa appointed	52
WHO team of medical scientists visits South East Asia	52
Venereal diseases and treponematoses	53
Malaria-control project in Burma	53
Leprosy adviser for Ethiopia	54
Health education aid given in Ecuador	54
WHO publishes vaccination requirements of 137 countries	54
Views on WHO	
International Pharmacopoeia	55

SCHEDULE OF MEETINGS

11-14 February **UN Working Party on Insecticides** Geneva

In accordance with a resolution of the Economic and Social Council of the United Nations a working party was convened to study the world position with regard to the supply of and requirements for DDT and BHC. In addition to representatives of the Economic and Social Council and of the United Nations Economic Commission for Europe delegates from Brazil, Ceylon, Egypt, France, Italy, Switzerland, the United Kingdom and the USA attended. Also present were observers from FAO, UNICEF and WHO.

14-30 March **International Symposium on Yaws Control** Bangkok

WHO in collaboration with the Government of Thailand is sponsoring a symposium which will bring together experts on yaws control from all parts of the world. The programme of this symposium will be found on page 42.

24 March
5 April **Working Conference on Nursing Education** Geneva

Specialists on various aspects of nursing education will meet under the auspices of WHO to discuss relevant problems. Nursing educators from Brazil, Canada, China, Finland, France, India, Switzerland, the United Kingdom, the USA and Yugoslavia are expected to attend.

FIRST EUROPEAN SEMINAR ON ALCOHOLISM

In every country where the use of alcoholic beverages is part and parcel of the cultural pattern excessive use leads to problems of varying magnitude. Governments have always taken some account of these problems but most of them have left the matter in the hands of the police and in some instances to the social welfare authorities. As a considerable part of the problem of alcohol is constituted by a disease condition known as alcohol addiction which yields to medical psychiatric treatment only not much headway has been made by methods limited to the social action level.

The disease nature of alcoholism has become more and more apparent through clinical and laboratory investigations of the past 15 years. These investigations may have created the erroneous impression that all excessive drinking must be regarded as a disease manifestation. There are however forms of excessive drinking which are evidently entirely social in their origins and their consequences and which therefore cannot be treated medically. Furthermore social and cultural elements are involved even in the etiology of the true disease of alcohol addiction. Thus the prevention and treatment of this disease involves to some extent the techniques of applied sociology. Sociologists and physicians who arbitrarily separate or entirely neglect either the medical or the social aspects of the problem inevitably frustrate their own endeavours.

When WHO integrated the control of alcoholism into its public health programme it took full cognizance of the complex nature of the problem. Evidence of this attitude was seen in the first European seminar on alcoholism conducted by the WHO Regional Office for Europe in collaboration with the Danish Government and the United Nations from 22 October to 3 November 1951 in Copenhagen. The participation of the Social Affairs Division of United Nations which sponsored 20 fellowships for this project emphasizes the close relationship between social action and public health attack which must be considered in dealing with the problems of alcohol. The success of the seminar was due to a great extent to this co-operation.

The seminar was devised for the training of public health workers, welfare administrators and social workers engaged in the treatment and care of alcoholics as well as for research workers in this field. While the primary object was to arouse interest and confidence in the medical psychiatric approach to alcohol addiction there was ample provision for the discussion of alcohol problems outside the jurisdiction of medicine.

The programme consisted of 30 lectures and 76 hours of group discussions. Eight discussion groups were arranged so that each Fellow could participate in two groups per week, or in a total of four groups for the whole course.

The lectures and hours of discussion were distributed by broad subjects as follows:

	<i>Number of lectures</i>	<i>Hours of group discussion</i>
Etiology and disease description	7	Incidental to various discussion groups
Therapy	9	18
Public care	3	10
Social work		
Social work proper	3	10
Employment relations	—	4
Criminological aspects	1	6
Governmental controls	—	8
Cultural aspects	2	12
Background lectures	5	—
Research	—	8

The contents of these lectures and discussions will be published in the near future. While the publication which results may serve as a brief textbook on alcoholism, it must be pointed out that recommendations and resolutions are not the functions of a seminar.

The faculty comprised 28 internationally known experts from Europe and the Americas. The 61 Fellows who attended the seminar came from 11 European countries: Austria, Belgium, Denmark, Finland, France, Federal Republic of Germany, Norway, Sweden, Switzerland, the United Kingdom and Yugoslavia. The professions represented by the Fellows are listed below:

Physicians	25
Public health administrators	5
Social welfare administrators	5
Social workers	15
Public health nurses	5
Psychologists	2
Biochemist	1
Sociologist	1

The seminar received wide and favourable publicity. Three radio broadcasts by members of the faculty and Fellows were arranged by the Danish State Broadcasting Company in collaboration with international networks.

The European seminar marked the inauguration of an active programme suggested by the Subcommittee on Alcoholism of the WHO.

Expert Committee on Mental Health A South American seminar is contemplated for 1953

WHO regional offices are considering among other activities in the control of alcoholism the establishment of abstract archives of the alcohol literature in libraries and research centres Recommendations by the Subcommittee on Alcoholism concerning the treatment of alcohol addiction in its early stages will be widely distributed Another important project is the survey of drinking patterns in new health demonstration areas

The active participation of WHO in the control of alcoholism is giving a new impetus to the endeavours to cope with this problem

POPULATION CONTROL

WHO Undertakes Pilot Study at Request of Government of India

With the aid of WHO technical assistance the Government of India is embarking on a one year pilot study in family planning as a means of population control The reason for this pilot study is to be found in the rapid increase in population and the consequent pressure on food supplies

India's population estimated in 1950 at 358 million has increased by 23 million during the past five years The death rate has fallen from 33 per thousand at the beginning of the century to 17.7 In other words the annual number of deaths for a population of 358 million would have been 11.8 million 50 years ago whereas in recent years the annual number of deaths for the country stands at 6.3 million or 5.5 million fewer Such a comparison can give of course only a very rough idea of the repercussion of the decrease in death rates

Two thirds of India's population live on one quarter of the land space In the rich agricultural area of the Indo Gangetic Plain there are districts with a population as high as 900 to the square mile The population has increased most in the densest areas and pressure on food supplies is heavy in parts of Bihar and the United Provinces As recently as June of last year Bihar was struck by famine and WHO responded to an appeal for emergency aid to protect this area's 20 million inhabitants against possible cholera and malaria outbreaks

The foregoing is a brief background to the request of the Government of India for WHO assistance in carrying out experimental studies in family planning

The request for aid was conditional upon the experiments being restricted to a method of family planning based on the 'safe period' of infertility in a woman—the so called 'rhythm method'. This method was chosen in preference to mechanical or chemical means because it is the one most compatible with Indian cultural traditions and ways of life. It was, in fact, the one method against which no objections had been raised by any religious group. However misleading Press statements caused some concern among adherents of the Roman Catholic Church, but this matter was clarified by a statement by the Director General of WHO which pointed out that, from recent addresses of His Holiness Pope Pius XII¹ it was clear that the Roman Catholic Church did not forbid this method of family planning so long as it was justified by medical, eugenic, economic, or social reasons.

Previous studies on the effectiveness of the 'safe period' method of family planning carried out in America have shown that it is effective among couples who follow it carefully and regularly. These studies however have been made mainly on urban populations. Whether the method would apply also to people in villages and industrial sections is still to be determined.

WHO, in acceding to the request of the Indian Government for aid and accepting the condition laid down engaged as consultant Dr. Abraham Stone of New York who is Vice President of the Planned Parenthood Association, and who has had more than 25 years' experience in family planning techniques to carry out a preliminary survey during last November and December. On the basis of the studies to be undertaken in India as a result of Dr. Stone's visit it is hoped that within one or two years sufficient factual and reliable data will become available to evaluate the suitability of the 'safe period' method as a measure of family planning for India. Accordingly plans have been laid for clinical research studies on this matter to be carried out at six centres in India. At each of these research centres about 100 couples will be interviewed and individual 'safe periods' will be calculated for each woman. These women will return every month for four to six months to have individual menstrual cycles recorded. There will be a follow up period of a year to 18 months in which to determine how effective the 'safe period' has been and whether the couples have carried out the instructions given to them at the centre.

The assistance of WHO will be confined to the use of the 'safe period' method and the centres will be operated under the supervision of the Indian Government. Two WHO family planning field workers will travel from centre to centre to guide the work and give all necessary advice.

MEDICAL CERTIFICATION OF CAUSE OF DEATH

The physician faced with the necessity of filling out a death certificate often finds his task complicated by the fact that the patient suffered from several morbid conditions. In such cases he may have to ask himself exactly what the statistical office wants in what order should the several morbid conditions be listed and how complete a description of each is required? To aid the certifier in supplying adequate and accurate information WHO has recently published a booklet prepared by the WHO Centre for Classification of Diseases which gives instructions for physicians on the use of the International Form of Medical Certificate of Cause of Death¹.

In 1948 the Sixth Decennial International Revision Conference decided that the cause of death to be tabulated in mortality statistics should be the *underlying cause* defined as (a) the disease or injury which initiated the train of morbid events leading directly to death or (b) the circumstances of the accident or violence which produced the fatal injury². To ensure uniformity in the application of this principle the Conference designed the International Form of Medical Certificate of Cause of Death which is reproduced in fig. 1.

Use of the International Form

Direct cause of death

The first entry I (a) is one which must always be made. What is wanted here is the disease, injury or complication which directly preceded death—not the mode of dying (e.g. heart failure, respiratory failure) which should not be stated at all. If only one morbid condition is present at death this will be the sole entry on the certificate.

Antecedent causes

In I (b) and (c) are recorded conditions antecedent to the direct cause of death both in time and in etiological or pathological relationship, the direct cause being due to or as a consequence of these conditions. I (c) represents the starting point of the sequence when there is more than

World Health Organization (1952) *Medical Statistics* 11th ed. Geneva: World Health Organization. French in preparation.
World Health Organization (1948) *Medical Statistics* 10th ed. Geneva: World Health Organization. 345.

one antecedent cause otherwise, I (b) is the starting point and the only entry under ' antecedent causes

Underlying cause

Provided the certificate has been properly filled out, the underlying cause of death, that which is used as the basis for statistics, will be the one recorded on the lowest line of part I of the form For example if there is no antecedent cause worth mentioning, then I (a) the direct cause

FIG 1 INTERNATIONAL FORM OF MEDICAL CERTIFICATE OF CAUSE OF DEATH

CAUSE OF DEATH		Approximate interval between onset and death
<p>I</p> <p><i>Disease or condition directly leading to death *</i> (a) due to (or as a consequence of)</p> <p><i>Antecedent causes</i> (b) due to (or as a consequence of)</p> <p>Morbid conditions if any giving rise to the above cause stating the underlying condition last (c)</p>		
<p>II</p> <p><i>Other significant conditions contributing to the death but not related to the disease or condition causing it</i></p>		

* This does not mean the mode of dying e.g. heart failure asthma etc It means the disease injury or complication which caused death

of death is the underlying cause as well if there is but one intervening step between the initial and direct cause of death, I (b) is the last entry in part I of the form and consequently, the underlying cause, when there are two conditions antecedent to the direct cause of death the starting point of the sequence is recorded in I (c) and this is then the underlying cause

Other notations

Part II provides space for noting any other condition which though not in the casual sequence in part I contributed something to the fatal outcome e.g. a chronic disease in a person who died from an accidental injury The condition entered in part II must not be related to the direct cause of death

Whenever the interval between onset of each condition and the date of decease is known even approximately this should be entered in the column provided. Such information supplies a useful check on the sequence of events in part I as well as data concerning the duration of illness for certain diseases.

Illustrative example of certification

A number of examples of proper certification are given in the booklet but one will suffice to illustrate the importance of accurately recording the sequence of morbid conditions so that the actual underlying cause will be tabulated as such.

A diabetic patient who has been under insulin control for many years suddenly dies from a degenerative heart condition. Depending on the role played in the fatal outcome by one condition or the other or both the following entries are possible.

1 Assuming that the heart condition resulted from the long standing diabetes the sequence would be

I (a) Myocardial degeneration

(b) Diabetes

and the statistical office would select diabetes as the underlying cause of death with the heart condition as a complication causing death.

2 If the heart condition developed independently of the diabetes the two conditions would be entered

I (a) Myocardial degeneration

II Diabetes

and the heart disease would be recorded as the underlying cause with diabetes merely a contributory condition.

3 If a patient suffering from both conditions dies from some other complication of diabetes the heart condition playing only a subsidiary role and perhaps not being attributable to the diabetes then the certificate would be in the form

I (a) Coma

(b) Diabetes

II Myocardial degeneration

Any one of the above certificates could be correct and would not be questioned by the statistical office. In some instances however a certificate may record an impossible sequence such as

I (a) Diabetes

(b) Myocardial degeneration

I (a) could not be "due to" I (b) and a certificate of this type would indicate that the physician did not understand the way in which the form is intended to be used.

Common Errors on Death Certificates

Aside from errors in recording causes in their proper sequence most of the unsatisfactory entries on death certificates are due to the use of

indefinite or inadequate terms. Some of the more common deficiencies of this type are

1 Failure to explain or elaborate descriptions of symptoms which may arise from diseases classified under several different headings in the International Classification—e.g., ascites, convulsions, toxæmia, etc.

2 Lack of specificity in naming the causative agent of conditions which could result from several types of infection or poison—e.g., dysentery may be bacillary, amoebic, or of other protozoal origin. If the certifier is uncertain of the causative agent, it saves useless inquiries if he writes 'cause unknown' after the condition.

3 Inadequate description of a term which may connote any of several morbid conditions having distinctive categories in the International Classification—e.g., bronchitis should be classified as acute, chronic, asthmatic, capillary, or emphysematous.

4 Failure to mention the organ or part of the body affected by a disease. For malignant neoplasm, for example, it is necessary to state what was the site of the primary growth, even though this may have been removed long before death, if secondary or metastatic growths were the cause of death.

5 Omission of statement of circumstances in which a morbid condition arose in cases in which this is required for classification—e.g., it should be stated whether an abortion was spontaneous or induced and, if the latter, by whom and for what reason. Mention should also be made of whether or not the abortion was accompanied by sepsis or toxæmia.

A useful annex to the booklet gives approximately 120 examples of incomplete descriptions of cause of death together with the additional information needed to make satisfactory statistical classification possible.

ACHIEVEMENTS OF A MALARIA-CONTROL TEAM IN INDIA

The first WHO/UNICEF malaria control team which has been working for more than two years in the Terai region of North India¹ can claim noteworthy success in its operations. Local personnel, directed by WHO malariologist Dr P. C. Issaris, are giving almost 100% protection against malaria to inhabitants of 1,300 villages. Systematic spraying with

DDT has resulted in a great reduction in the incidence of malaria as has been proved by malariometric and entomological surveys. Before the spraying operations were undertaken, microscopical examination of blood samples from thousands of babies revealed that from 50% to 75% of the infants contracted malaria during their first year of life. After the first year of DDT spraying, these figures fell to 2.6% after the second year, no babies were becoming infected.

Indian nurses attached to the team and assisting

Dr P. C. Issaris, leader of the Terai team, examines the spleen of an infant.

FIG 2 MALARIA CONTROL TEAM I



FIG 3 MALARIA CONTROL TEAM II



the WHO public health nurse Miss E. L. Pepper have accounted for much of the team's success. In addition to collecting blood slides from infants, they have given advice to mothers treated children for minor ailments and established actively functioning maternal and child health centres in several parts of the region. At one such centre as many as 450 mothers attend prenatal and postnatal clinics monthly.

Laboratory tests are an important part of malaria control operations whether they consist of examining blood slides or as here, of checking to see whether the DDT sprayed on the walls of village houses is still giving active protection against mites.

The results of the malaria control operations are reflected in economic improvements in the region official figures for the period 1948-51 show that the population grew from 167,000 to 284,248 and that the area under cultivation increased by 35,818 acres. Production of food grains rose from 55,000 tons in 1947-8 to 73,500 tons in 1950-1. Special attention is now being given to this aspect of malaria control, and the project has become a joint FAO/WHO programme to increase food production and raise health standards in the Terai area.

SECOND SEMINAR FOR EUROPEAN SANITARY ENGINEERS

The second seminar for European sanitary engineers was held in Rome, Italy, from 11 to 17 November 1951, under the auspices of the Government of Italy, the Rockefeller Foundation (Division of Medicine and Public Health), and the WHO Regional Office for Europe. Participants numbered 68 and included representatives of the sponsoring agencies and of 16 European countries—Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Sweden, Switzerland, the United Kingdom, and Yugoslavia. In addition, ten selected engineering students from Italian universities attended as observers.

The programme of the seminar was designed to stimulate free discussion of a limited number of subjects of general interest to European nations such as: the public health engineer in town, regional and general planning; the formation of national and European associations of sanitary engineers; considerations involved in the development of international drinking water standards; financing of sanitary works; sewage disposal in communities without sewers; small sewage treatment plants; use of sewage for irrigation; and use of sewage sludge as fertilizer.

The participants in the seminar reached the following decisions:

1. It was recommended that another seminar be held in 1952 under the sponsorship of the World Health Organization and the Rockefeller Foundation along lines similar to those of the 1951 seminar.

2. It was decided that an ad hoc committee be set up the terms of reference of this committee to include:

- (a) review of the results and conclusions of the second seminar, including the report on it which is to be published by the sponsoring agencies in English and French;

- (b) giving advice to the sponsoring agencies on the nature, time, and place of the third seminar to take place in 1952 allowing sufficient

latitude in the programme details for the introduction of topics of particular interest to the host country or to its neighbours

(c) advising and assisting the sponsoring agencies in studying and exchanging scientific information on technical questions in addition to those recommended for discussion at the third seminar

(d) studying and reporting to the third seminar on the existing national associations of sanitary engineers with the object of determining the desirability and practicability of forming at some future date a European association of sanitary engineers

3 It was recommended that WHO study the provision of facilities for collecting assembling and distributing information on environmental sanitation which is available in each of the participating countries and which would be of value to the others in the region

4 Attention was called to the importance of consulting sanitary engineers in the early stages of planning of sanitary improvements in order to avoid difficulties in implementing such plans

5 Recognizing the extreme difficulty at the present time of formulating international standards of water quality the seminar recommended that a small committee be charged with the task of establishing a basis for the development of bacteriological standards of water used for drinking and culinary purposes. As a first step the work might start with international carriers. The desirability of setting up international standards for methods of water analysis was expressed

6 Consideration was given to the problem of disposal of excreta in localities in which there are no sewers and a study of the handling transport and ultimate disposal of excreta was recommended particular attention to be given to the aspects of pollution of soil and ground water

It was considered desirable also that studies be instituted on the problems associated with small sewage treatment plants and subsurface disposal

The spreading of crude or insufficiently treated sewage over the ground for irrigation and fertilization purposes meets with many objections from a sanitary point of view. It was recommended that in localities where this is the practice there should be regulations governing the utilization of the agricultural products and the methods of cultivation. Further studies should be undertaken on the physical chemical bacteriological and economic aspects of the purification of sewage and sludge as related to their utilization for agricultural purposes

7 At present there are no standard definitions in all languages of the many specialized terms used in sanitation and sanitary engineering practice. The seminar recommended that its ad hoc committee investigate methods by which a glossary of such terms might be produced taking into account

the work now being done along these lines by other national or international organizations

* * *

This second meeting of sanitary engineers in Europe is a stage in the development of a programme which should be viewed over a period of many years. The first seminar, held at The Hague in 1950¹ marked the beginning of efforts to break down the isolation in which European sanitary engineers have been working—isolation from their colleagues in other countries and also from the public health medical officer and other workers concerned with the protection of man against the dangers of his environment. The objective of bringing European sanitary engineers into closer contact with their colleagues in other countries has been partially realized. The time is approaching to consider the second objective of achieving closer contact among the members of the environmental sanitation team, particularly public health medical officers and sanitary engineers. It was suggested at the second seminar that a joint conference of these two groups might be convened in Europe in 1952 or 1953.

¹ *Ch on World Hlth Org* 1951 5 81

PROGRAMME OF YAWS-CONTROL SYMPOSIUM

Arrangements have been completed for the WHO sponsored International Symposium on Yaws Control, which will bring together in Bangkok, Thailand next month experts on treponematoses from many different countries. The schedule of lectures and discussions follows.

14 March—The Biology of Yaws

- 1 Unknowns in yaws—Dr C M Hasselmann
 - 2 Present status of yaws research—Dr T B Turner
 - 3 Non specific factors in the epidemiology of yaws—Dr K R Hill
- Round table discussion—Dr M Soetopo (Indonesia) Chairman Dr C R Rein (USA) Rapporteur

15 March—Antibiotics in the Treatment of Yaws

- 1 Penicillin in the therapy of yaws—Dr S Levitan
 - 2 Time-dose relationships of penicillin therapy of the treponematoses with special reference to yaws
 - (a) Laboratory basis for effective therapy—Dr D K Kitchen and Dr C R Rein
 - (b) Clinical basis for effective therapy—Dr C R Rein and Dr D K Kitchen
 - 3 Antibiotics other than penicillin in the treatment of yaws—Dr K R Hill
- Round table discussion—Dr R V Rajam (India) Chairman Dr R R Willcox (United Kingdom) Rapporteur

17 March—Extent and Nature of the Yaws Problem

- 1 In the Americas—Dr G Samame
- 2 In Africa—Dr C J Hackett
- 3 In the French Overseas Territories—Dr M A Vaucel
- 4 In the South Pacific Islands—Dr E Massal

Round table discussion—Dr Boon Suvanasa (Thailand) Chairman Dr K R Hill (Jamaica) Rapporteur

18 March—Development of Plans of Operation

- 1 Experiences in South East Asia—Dr N Jungalwalla
- 2 The approach to yaws control in Brazil—Dr F N Guimarães
- 3 Problems in logistics and public health administration—Dr K W C Sinclair

Loutit
Round table discussion—Dr F Cruz (Philippines) Chairman Dr G Samamé (WHO) Rapporteur

19 March—Demonstration Survey and Training Phase

- 1 Teaching and training methods—Dr D R Huggins
- 2 Diagnostic aids in mass treatment campaigns against yaws—Dr C R Rein
- 3 Public health nursing and health education in yaws control—Miss J Delmotte

Round table discussion—Dr R E Anderson (Malaya) Chairman Dr C J Hackett (United Kingdom) Rapporteur

20 March—Expansion Phase

- 1 Yaws-control activities in Haiti—Dr E Petrus
- 2 Experiences in Indonesia—Dr R Kodijat
- 3 Administrative problems and experiences—Dr S Daengsvang and Mr S Polack

Round table discussion—Dr M A Vaucel (France) Chairman Dr F W Reynolds (WHO) Rapporteur

21 March—Consolidation Phase

- 1 Experiences in Africa—Dr C J Hackett
- 2 Plans for the Philippines—Dr F Cruz
- 3 Yaws control a means of promoting rural health services—Dr J L Troupin

and Dr F W Reynolds
Round table discussion—Dr D Ungar (Nigeria) Chairman Dr C M Hasselmann (Germany) Rapporteur

22 March—Role of International Organizations

- 1 Role of WHO—Dr W Bonne
- 2 Role of UNICEF—Mr S M Keeney

Round table discussion—Dr K W C Sinclair Loutit (WHO) Chairman
Dr N Jungalwalla (WHO) Rapporteur

* * *

From 24 to 30 March a field demonstration and training seminar will be held at Ubol site of the operations of the WHO/UNICEF yaws-control team in Thailand

Any plan for meeting food emergencies must be based upon

1 Appraisal of total food requirements this to be assessed in terms of calorie requirements Attention should also be given to providing a well balanced diet particularly with regard to a sufficiency of proteins Special provisions must be made for the more vulnerable groups within the population i.e. for infants children pregnant and nursing women and old people

2 Appraisal of production possibilities This includes tillable acreage land use crop yields availability of fertilizers pesticides tools machinery fuel livestock feed, etc. and potential labour force

3 Orientation of food production to ensure the greatest amount of food in terms of calories per unit of land used

4 Storage of foods by the government various branches of the trade (importers producers wholesalers retailers etc.) and private householders

5 Economical and effective utilization of foods this requiring controls of various types

6 Procurement and distribution of foods including regulation of stocks from producer to consumer rationing systems to ensure fair distribution and price control

7 Public information and advisory services to win the aid and co operation of all population groups

Physiological Clinical and Therapeutic Aspects of Severe Malnutrition

The treatment of patients suffering from starvation should aim so far as possible to achieve the following goals (1) preservation of life (2) prevention of irreversible damage to body and mind (3) establishment of nutritional and general metabolic conditions conducive to maximal recovery (4) restoration of morale and promotion of a psychologically healthy state of mind and emotion (5) rebuilding the wasted tissues of the body and (6) attainment ultimately of total rehabilitation All treatment must be adjusted to the physical status of the patient Specific measures adopted will depend to a great extent on the supplies facilities and personnel which are available

The report gives a synthesis of information from the world literature and of the opinions of experts who have had personal experience in the treatment of starved persons It admits however that scientific and medical knowledge on the treatment of starved or otherwise severely malnourished persons is incomplete and warns that serious mistakes may easily be made Particular caution is expressed with regard to parenteral therapy which should be kept to a minimum in starvation cases because of increased risks of pulmonary oedema and circulatory embarrassment

Any plan for meeting food emergencies must be based upon

- 1 Appraisal of total food requirements this to be assessed in terms of calorie requirements Attention should also be given to providing a well balanced diet particularly with regard to a sufficiency of proteins Special provisions must be made for the more vulnerable groups within the population i.e. for infants children pregnant and nursing women and old people

- 2 Appraisal of production possibilities This includes tillable acreage land use crop yields availability of fertilizers pesticides tools machinery fuel livestock feed etc. and potential labour force

- 3 Orientation of food production to ensure the greatest amount of food in terms of calories per unit of land used

- 4 Storage of foods by the government various branches of the trade (importers producers wholesalers retailers etc.) and private householders

- 5 Economical and effective utilization of foods thus requiring controls of various types

- 6 Procurement and distribution of foods including regulation of stocks from producer to consumer rationing systems to ensure fair distribution and price control

- 7 Public information and advisory services to win the aid and co operation of all population groups

Physiological Clinical and Therapeutic Aspects of Severe Malnutrition

The treatment of patients suffering from starvation should aim so far as possible to achieve the following goals (1) preservation of life (2) prevention of irreversible damage to body and mind (3) establishment of nutritional and general metabolic conditions conducive to maximal recovery (4) restoration of morale and promotion of a psychologically healthy state of mind and emotion (5) rebuilding the wasted tissues of the body and (6) attainment ultimately of total rehabilitation All treatment must be adjusted to the physical status of the patient Specific measures adopted will depend to a great extent on the supplies facilities and personnel which are available

The report gives a synthesis of information from the world literature and of the opinions of experts who have had personal experience in the treatment of starved persons It admits however that scientific and medical knowledge on the treatment of starved or otherwise severely malnourished persons is incomplete and warns that serious mistakes may easily be made Particular caution is expressed with regard to parenteral therapy which should be kept to a minimum in starvation cases because of increased risks of pulmonary oedema and circulatory embarrassment

Among the subjects discussed in this section of the report are varieties of starvation and severe malnutrition characteristics of starved persons, personnel, supplies, and equipment for treatment treatment schedule and prognosis parenteral therapy and starvation plus trauma or disease. An extensive bibliography provides a guide to current knowledge on the biological characteristics of starved and malnourished persons and the problems which may be encountered in treating them.

Attention is drawn to concomitant conditions which may complicate the situation when severe food shortages arise during war or natural disasters and to general public-health measures which must not be neglected

"Suffering and death among starving patients and in the general population during famine are not solely the direct result of food shortages and calorie inadequacy Whenever there is mass starvation there is apt to be a breakdown in sanitary and public-health control with the consequent danger of widespread infections and epidemics Programmes for the prevention or amelioration of the ill effects of famine must, then, give prominence to other public-health measures as well as the basic matter of nutrition Particularly is this important in underdeveloped and in tropical countries, where sanitary control may be imperfect even in non-famine periods or where insects and other disease vectors abound Vaccinations anticholera inoculations, malaria control, purification of drinking water, and similar measures must be pursued with vigour from the start of any programme of the control and relief of famine."

Review of WHO Publications

WORLD POPULATION HAS DOUBLED IN A CENTURY

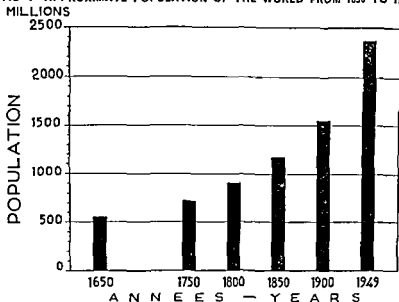
The population of the world has increased by 1.2 milliards in one century passing from 1 171 million in 1850 to 2,378 million in 1949 Since 1650 the number of inhabitants has been nearly quadrupled (fig. 4) Attention is drawn to these facts in an article on the increase in world population prepared by Dr S Swazroop Chief Statistical Studies Section WHO and published in the *Epidemiological and Vital Statistics Report*¹

Where and when did this increase take place? "Europeans and their migratory descendants overseas experienced the greatest relative increase." In 1949 their number was eight times greater than in 1650 whereas the population figure for the rest of the world had only trebled. However from 1900 to 1949 it was in Europe (excluding the USSR) that

¹ *Idem. ibid. Statist. Rep. 1951* 4 162

the rate of increase was lowest 36% as against 112% for the Americas. Yet during the last five decades the population of Europe has increased by 100 million. The increase has been most marked in the Netherlands (94%), Bulgaria (83%), Denmark (63%) and Portugal (55%). France and Czechoslovakia have remained more or less stationary. Ireland's population has decreased by 7% during the last half century.

FIG. 4. APPROXIMATE POPULATION OF THE WORLD FROM 1650 TO 1949



During the same period the inhabitants of the present territory of the USSR which in 1900 numbered less than half those of Europe have increased by 74 million (59%).

In 1900 the population of Africa was probably on a level with that of the Americas but during the first half of the 20th century the population of the American continent rose to three times that of Africa. The most rapid increases were recorded in Argentina (251%), Cuba (231%), Colombia (217%) and Brazil (191%).

The increase in the Asiatic populations amounts to half the total increase in world population. China and India (before the partition) have been responsible for nearly a third of the world increase although the rates of increase in these countries themselves have been relatively low i.e. 30% and 49% respectively. On the other hand in some of the smaller countries such as Indonesia, the Philippines and Thailand the number of inhabitants has increased by more than 100%.

It is obvious that population figures must always be treated with some reserve. In fact in some parts of the world no census has yet been taken.

in others, the counting of the inhabitants began only during the first decade of the 20th century. The figures are uncertain with regard to vast territories such as China (where only partial censuses have been taken) Africa, and Central and South America. They are affected by wars, migrations, population transfers, famines and natural disasters. Nevertheless, for the past few years sufficiently exact demographic data are available for about 70% of the world population. The statistics which are cited in the article under review are drawn from very reliable sources, i.e., the publications of the Statistical Office of the United Nations, the archives of the Health Organization of the League of Nations, and the International Statistical Institute as well as various reference works on demographic problems.

In spite of being only approximate, the figures give a reliable picture of the developments which have followed progress in medicine and social hygiene in European countries, in the countries to which Europeans emigrated during the 19th century and also during the last few decades, in the countries of the East such as Egypt, India, Indonesia and Pakistan.

TREND OF SCARLET FEVER IN RECENT YEARS

A brief study of the incidence of scarlet fever in the years since the second World War has been published in the *Epidemiological and Vital Statistics Report*¹. It shows that Europe, apart from the southern and south-western regions, still seems to be the continent where the incidence is highest. While scarlet fever has become much less serious since the beginning of the century, in many countries it has attacked a far greater number of people during recent years than in the period between the two world wars, particularly in Europe.

In large sectors of Africa and Asia for which data are available, the number of cases of scarlet fever notified during the postwar years has been relatively insignificant. This has been true also in America, except in Canada and even more so in the USA. However, the incidence in these latter two countries is still comparatively small in relation to that in many countries of Europe.

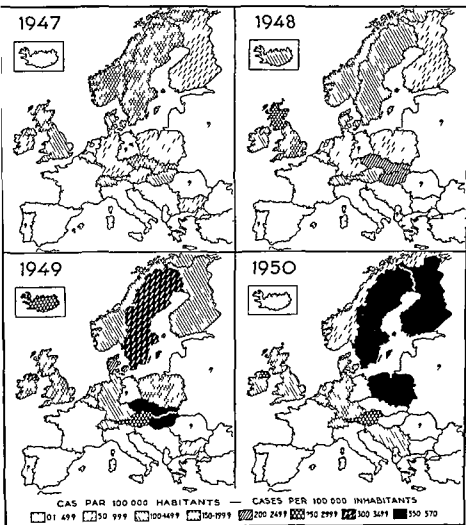
Whereas from 1946 to 1949 and 1950 the annual number of cases notified in the USA decreased from 116 000 to 75 000 and then to 57,000, over the European continent as a whole it increased from 239 000 to 420 000 and then to about 520 000. Another illustration of this comparative trend is found in the number of cases recorded per 100 000 inhabitants: from 1946 to 1950 the annual number of cases notified in Canada and the USA did not exceed 76 and 83 per 100 000 inhabitants, in Europe on the other

¹ *Epidemiol. & Vital Stat. Rpt.* 1951, 4, 355.

hand rates above 100 per 100 000 inhabitants were recorded in 10 countries in 1946 in 9 in 1947 in 12 in 1948 and in 15 in 1949 and 1950. Some times there were more cases in a single European country than in the whole of the USA: for example in 1950 there were 65 883 cases in England and Wales and 86 924 in the Federal Republic of Germany as compared with only 56 851 in the USA.

Significant outbreaks of scarlet fever occurred in a number of countries of Europe in recent years: in Bulgaria in 1946 in Ireland and Scotland in 1948 in Austria, Czechoslovakia, the Federal Republic of Germany

FIG 5 CASES OF SCARLET FEVER REPORTED IN EUROPE FROM 1947 TO 1950



Hungary Iceland Northern Ireland Poland Sweden, and again in Ireland in 1949, in Berlin, Finland, Malta, Yugoslavia, and again in Austria the Federal Republic of Germany, Poland, and Sweden in 1950, and in Finland and Spain in 1951

The mortality caused by scarlet fever has shown a considerable decrease In the USA between 1944 and 1948 the number of deaths dropped from 422 to 68 annually, corresponding to a case fatality rate of only 0.22% and 0.09% respectively these figures are in contrast with those for 1936, 1937, and 1938 when there were 2,493, 1,824, and 1,206 deaths i.e. a case fatality rate of 1.0%, 0.8%, and 0.6% respectively In Yugoslavia where a particularly high morbidity rate was recorded for 1950 (18,581 cases) mortality reached a rate lower than ever before 37 deaths, this is in striking contrast with the rate for 1928 when there were 3,371 deaths for the 23,078 cases recorded Only eight deaths from scarlet fever were recorded in Turkey in 1950 as compared with 400 in 1929 for an approximately equal number of cases notified Australia, too, provides an illustration of the low death rate from scarlet fever from 1943 to 1948 the total number of deaths was not more than 112 for the 59,098 cases notified

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves Selections from these reports are therefore published from time to time, but it must be emphasized that the opinions expressed are those of the Fellows

Environmental Sanitation in Certain European Countries

Professor M. P. Horwood of the Massachusetts Institute of Technology, Cambridge, Mass., USA, was granted a three-month WHO fellowship to observe teaching, research, and practice in environmental sanitation in Denmark, England, Finland, France, and the Netherlands. Extracts from Professor Horwood's report follow.

"One of the outstanding impressions is that instances of excellent achievement in one or more phases of environmental sanitation exist in every country. In one case it may be water purification, while in another it may be sewage treatment, refuse disposal, swimming pool sanitation, improved housing, rodent control, or some other aspect of environmental sanitation. In Finland, for example, a special effort was being made to

improve rural sanitation a problem of great magnitude and acuteness in almost every land. Despite the existence of outstanding achievement in one or more phases of environmental sanitation in each country it is impossible to avoid the general conclusion that the great public health need in the five European countries observed is a more extensive and effective programme in environmental sanitation.

The level of attainment in milk and food sanitation leaves very much to be desired. Domestic and even industrial refrigeration of foods is either not practised at all or is practised only to a limited degree. In general people depend on climatic conditions to preserve perishable foods against spoilage and serious bacterial multiplication rather than on artificial refrigeration. The problem is further complicated by the universal lack of suitable hand hygiene facilities and the absence of good hand hygiene practice. In consequence foods are frequently contaminated and infected and the transfer of infection through the medium of soiled hands must be extensive. *If there is any validity in the germ theory of disease and in the normal modes of transmission of infection there is then great need in these European countries for improved hand hygiene facilities for the elimination of the common roller towel and for the development of a health education programme leading to better hand hygiene by food handlers as well as by the general population.*

"There is also great need for more adequate and effective supervision over the production and handling of milk supplies and over the pasteurizing process itself. The time and temperature of pasteurization are not uniform in the various European countries under consideration. It was rare to find pasteurization by the holding method in actual practice. The more economical pasteurizing process namely the short time high temperature method is the procedure normally in use. Bacterial supervision is employed very rarely. The phosphatase test is not employed on every batch of milk pasteurized but is employed at intervals of once a week and sometimes even less frequently. In Helsinki pasteurization is practised only during the warmer months of the year hence the milk supply of this large city is protected against communicable diseases only to a limited extent each year. Great progress has been made in England, Finland and Denmark in the elimination of bovine tuberculosis among dairy cattle. In fact in Denmark 100 % of the dairy cattle are tested for tuberculosis annually and all reactors are eliminated. In France however the milk supply is protected primarily through heat treatment rather than through sanitation or the tuberculin testing of dairy cattle.

"On the Continent the tendency is to avoid the use of chlorine to ensure the safety of municipal water supplies. Chlorination is frequently omitted because it requires special equipment and the use of chemicals both of which add to the cost of treatment. It is also maintained that Europeans object to drinking chlorinated water. While it is unnecessary to chlorinate water so heavily as to make it objectionable for drinking purposes American public health practice indicates definitely that ultimate safety from water borne disease can be achieved only through the disinfection of water supplies immediately before they enter the distribution system. An educational programme should be inaugurated the aim of which should be the ultimate protection of municipal water supplies in Europe through chlorination.

There is also great need for standardizing the bacteriological examination of water supplies to determine their safety for drinking purposes. It is suggested that since this is a fundamental question of primary importance to the public health a co-operative study should be inaugurated under the leadership of the World Health Organization which will result in a uniform method of examining waters bacteriologically.

"Since effective work in environmental sanitation leads definitely to the prevention of disease and to the improvement of vital resistance further effort in this respect is greatly needed to provide a suitable foundation for the excellent programmes of medical care that are already available. Coupled with the more effective control of the environment an energetic campaign should be waged in personal and popular health-education.

improve rural sanitation a problem of great magnitude and acuteness in almost every land. Despite the existence of outstanding achievement in one or more phases of environmental sanitation in each country it is impossible to avoid the general conclusion that the great public health need in the five European countries observed is a more extensive and effective programme in environmental sanitation.

"The level of attainment in milk and food sanitation leaves very much to be desired. Domestic and even industrial refrigeration of foods is either not practised at all or is practised only to a limited degree. In general people depend on climatic conditions to preserve perishable foods against spoilage and serious bacterial multiplication rather than on artificial refrigeration. The problem is further complicated by the universal lack of suitable hand hygiene facilities and the absence of good hand hygiene practice. In consequence foods are frequently contaminated and infected and the transfer of infection through the medium of soiled hands must be extensive. If there is any validity in the germ theory of disease and in the normal modes of transmission of infection there is then great need in these European countries for improved hand hygiene facilities for the elimination of the common roller towel and for the development of a health education programme leading to better hand hygiene by food handlers as well as by the general population.

There is also great need for more adequate and effective supervision over the production and handling of milk supplies and over the pasteurizing process itself. The time and temperature of pasteurization are not uniform in the various European countries under consideration. It was rare to find pasteurization by the holding method in actual practice. The more economical pasteurizing process namely the short time high temperature method is the procedure normally in use. Bacterial supervision is employed very rarely. The phosphatase test is not employed on every batch of milk pasteurized but is employed at intervals of once a week and sometimes even less frequently. In Helsinki pasteurization is practised only during the warmer months of the year hence the milk supply of this large city is protected against communicable diseases only to a limited extent each year. Great progress has been made in England, Finland and Denmark in the elimination of bovine tuberculosis among dairy cattle. In fact in Denmark 100% of the dairy cattle are tested for tuberculosis annually and all reactors are eliminated. In France however the milk supply is protected primarily through heat treatment rather than through sanitation or the tuberculin testing of dairy cattle.

"On the Continent the tendency is to avoid the use of chlorine to ensure the safety of municipal water supplies. Chlorination is frequently omitted because it requires special equipment and the use of chemicals both of which add to the cost of treatment. It is also maintained that Europeans object to drinking chlorinated water. While it is unnecessary to chlorinate water so heavily as to make it objectionable for drinking purposes American public health practice indicates definitely that ultimate safety from water borne disease can be achieved only through the disinfection of water supplies immediately before they enter the distribution system. An educational programme should be inaugurated the aim of which should be the ultimate protection of municipal water supplies in Europe through chlorination.

There is also great need for standardizing the bacteriological examination of water supplies to determine their safety for drinking purposes. It is suggested that since this is a fundamental question of primary importance to the public health a co-operative study should be inaugurated under the leadership of the World Health Organization which will result in a uniform method of examining waters bacteriologically.

"Since effective work in environmental sanitation leads definitely to the prevention of disease and to the improvement of vital resistance further effort in this respect is greatly needed to provide a suitable foundation for the excellent programmes of medical care that are already available. Coupled with the more effective control of the environment an energetic campaign should be waged in personal and popular health-education.

with particular reference to personal hygiene, the prevention of contact-borne diseases, the sanitary production, handling and safeguarding of milk supplies, the proper protection of food supplies, and various other aspects of the broad field of environmental sanitation."

Notes and News

Regional Directors for Europe and Africa Appointed

The nominations of Dr. N. D. Bekk as Director of the WHO Regional Office for Europe and of Dr. L. Duibenton as Director of the WHO Regional Office for Africa were confirmed by the Executive Board at its ninth session. Both Dr. Bekk and Dr. Duibenton have been acting as regional directors since being nominated by the respective regional committees in September 1951.¹

Dr. Bekk, who studied at Aberdeen University and the Royal College of Physicians, London, is a specialist in public health and the author of several publications on communicable diseases. He was Medical Superintendent of the Eastern Communicable Diseases Hospital, London, following which he went to Poland as Chief Medical Officer for UNRRA. He later served as head of the WHO mission to Poland. On its establishment on 1 January 1949, Dr. Bekk became Chief of the WHO Special Office for Europe.

Dr. Duibenton studied at Utrecht University, Lausanne, St. Bartholomew's (London), Johannesburg, and the London School of Hygiene and Tropical Medicine. He had 25 years' experience in Africa as one of the consulting medical officers for the Witwatersrand Gold Mines Union of South Africa and in various public health posts. Before joining WHO he was Deputy Chief of Staff of the Netherlands Military Government and later Director-General of Medical Services for the Royal Netherlands Army, with the rank of Lieutenant-General. In 1948 he headed the WHO mission to Ethiopia and in 1949 was WHO consultant in public-health administration in the Eastern Mediterranean Region. In late 1950 Dr. Duibenton was named Chief of the WHO Office for Africa.

The WHO Regional Office for Europe will continue to be located temporarily at Geneva Headquarters. The Regional Office for Africa will be established in Brazzaville, French Equatorial Africa.

WHO Team of Medical Scientists Visits South East Asia

A team of eleven medical scientists, drawn from nine countries, has undertaken a WHO mission to three countries of South East Asia, India, Burma, and Ceylon. Following the pattern of previous projects of this type, such as those in Israel and Iran last year,² the visiting professors will give lectures, engage in practical work in their respective fields in collaboration with host scientists, and give advice in their specialties upon request to governments of the countries visited.

The team arrived in Calcutta on 4 February and proceeded to Rangoon, Burma, on 13 February, from there it will go to Colombo, Ceylon, on 5 March. The tour is expected to end on 7 April.

¹ *Chron. World Hlth Org.* 1951, 5, 31.

² *Chron. World Hlth Org.* 1951, 5, 511.

³ *Chron. World Hlth Org.* 1952, 6, 6, 9.

The members of the team are

- Dr E. W. Andersen Director of Anaesthesia Copenhagen County Hospital Denmark
Dr F. S. P. van Buchem Professor of Medicine University of Groningen Netherlands
Dr E. W. H. Cruickshank Professor of Physiology University of Aberdeen Scotland
Dr M. Florkin Professor of Biochemistry University of Liège Belgium
Dr J. E. Gordon Professor of Preventive Medicine and Epidemiology Harvard University School of Public Health Cambridge Mass. USA
Dr E. Husfeldt (Chairman) Professor of Surgery Department of Thoracic Surgery University of Copenhagen Denmark
Dr M. R. MacCharles Associate Professor of Surgery University of Manitoba Winnipeg Canada
Dr H. O. Schild Reader in Pharmacology University College London United Kingdom
Dr B. Vahlquist Professor of Paediatrics University of Uppsala Sweden
Dr E. R. Williams Director of Diagnostic Radiology St Mary's Hospital London W 2 United Kingdom
Dr E. Grzegorzewski former Professor of Public Health and Rector of the Medical Academy of Gdansk Poland now Director of Division of Education and Training Services WHO

Venereal Diseases and Treponematoses

International maritime venereal-disease control centre

An international centre for the control of venereal diseases among seafarers was opened on 21 December 1951 at Rotterdam the Netherlands. WHO is providing international personnel and fellowships for training courses which will be given at the centre as well as certain supplies. The Government of the Netherlands is making available for the project special facilities in the Rotterdam Maritime Health Centre. The new centre has facilities for studying and demonstrating modern techniques of venereal disease control particularly with reference to maritime problems. Several study groups have been established and short term training courses will be arranged for medical officers nurses laboratory technicians and social workers from various countries. The project is directed by Dr E. H. Hermans Chief Medical Officer of the Rotterdam Anti Venereal Disease Association.

Rotterdam was chosen as the site for this demonstration project because it is the largest port for overseas shipping in Europe as well as the terminus of most shipping coming down the Rhine River. It is also the technical centre for the International Anti Venereal Disease Commission of the Rhine of which Belgium France Germany and Switzerland are members.

Haiti project

A report on the WHO/UNICEF yaws-eradication and rural syphilis-control programme which has been in progress in Haiti since 1950 reveals that from 20 July 1950 to 30 October 1951 642 338 persons were treated of which 341 318 showed signs of skin diseases including yaws.

Malaria Control Project in Burma

A WHO malaria-control demonstration team which arrived in Lashio Burma in early October 1951 reports satisfactory progress in its preliminary activities. An area of about 670 square miles (1 735 square kilometres) with a total population of not less than 40 000 has been demarcated for the first year of operations: a check area and an

area for extension of operations in the second year have been selected. In a spot spleen survey a spleen rate of 94% was found. A regular post transmission-season malariometric survey of the whole area has been started. Entomological surveys and training of locally recruited staff have also been initiated.

International team members in this project are Dr E. B. Weeks, senior adviser Mr S. K. Sobti entomologist and Mr V. Venkat Rao sanitarian.

Leprosy Adviser for Ethiopia

Dr Mustafa Kamel Director of the Amriva Leprosy Colony near Alexandria, Egypt, has been appointed by WHO to undertake a one-year assignment as leprosy adviser to the Government of Ethiopia. Dr Kamel will follow up the antileprosy work begun last year by Dr M. A. K. Dalcamouni whose survey and treatment project was also sponsored by WHO¹.

Dr Kamel has studied leprosy control in the Philippines and India as well as in Egypt, where he has held a number of posts: Inspector of the Leprosy Section of the Egyptian Ministry of Health, Chief Medical Officer of the same Section, and Director of the Abu Zaabal Leper Colony near Cairo.

Health Education Aid Given in Ecuador

Mr F. Sequeira, a health educator of the Department of Public Health of El Salvador was sent by WHO to Ecuador where he gave lectures on health education to staff members of the Department of Public Health, the Ecuadorean League against Tuberculosis, members of the Press, the staff of the Department of Public Education, teachers, and personnel at health centres. In Guayaquil Mr Sequeira trained four persons in various health-education methods and techniques. In addition, he aided the Director General of Public Health of Ecuador in outlining a permanent plan of health education for the republic.

WHO Publishes Vaccination Requirements of 132 Countries

WHO has recently published in its *Weekly Epidemiological Record*² a list of the vaccinations required of travellers arriving by land, sea, or air in 132 countries and territories. Most commonly required are certificates of vaccination against smallpox, yellow fever and cholera; inoculation against typhoid and paratyphoid fevers, typhus, diphtheria, and tetanus is occasionally demanded.

Publication of this list of requirements does not imply that all have the sanction of WHO. For the majority of the countries listed, these requirements appear for the last time under the authority of the 1944 International Sanitary Conventions, which will be replaced from 1 October 1952 by the International Sanitary Regulations which were adopted by the Fourth World Health Assembly.

¹ *Ch. w. H. w. H. H. H. Org.* 1951, 6, 9, 53.

² *W. J. E. p. i. d. e. m. R. e. c.* 1951, 27, Supplement 1, No. 67, 7 February.

Views on WHO

International Pharmacopoeia

In a recent article in the *Pharmaceutical Journal* London (1951 167 423) volume I of the *Pharmacopoea Internationalis* which has just been published by WHO is critically reviewed

The long promised International Pharmacopoeia produced to encourage national pharmacopoeias to adopt a uniform terminology and similar standards for corresponding drugs presents little from a chemical standpoint that is entirely new to British pharmacists. Of the two hundred monographs in this first volume more than three quarters of them are on inorganic and organic chemicals and all but thirteen of these substances are included in either the B P [*British Pharmacopoeia*] 1948 or the B P C [*British Pharmaceutical Codex*] 1949. In addition to materials required for pharmaceutical purposes both well-established and new therapeutic agents are included antimalarials organic arsenicals barbiturates and sulphonamides are well represented but the antibiotics have to await the publication of Volume II because of the difficulty of securing agreement on standards and methods of control. It is rather surprising however to find obsolescent drugs like bromoform and caffeine and sodium salicylate gaining inclusion.

“Little criticism can be made of the form and general arrangement for these follow the practice of most modern pharmacopoeias. The large size type and generous spacing make the book easy to read and prominent side headings facilitate reference. Latin titles are used for the monographs and the British pharmacist will find that most of the names are already familiar. Once the reader remembers that potassium and sodium are called kalium and natrium to correspond to their chemical symbols little difficulty is experienced in finding a particular monograph. This task can be further simplified by reference to an easily

readable list of contents at the beginning of the book or the comprehensive index at the end.

“The individual monographs are arranged similarly to those in the B P. It is a pity however that the intended unification does not extend to the structural formulae when these are given. In the case of deoxycortone acetate and dicoumarol on opposite pages lines of different thickness have been used to represent the ring systems while the line formula for anaesthetic ether is in different type from that used for amphetamine. The system of the International Union of Chemistry has been chosen for the chemical nomenclature and the Patterson Ring Index for the structural formulae and numbering there are thus numerous differences in the chemical names of organic substances.

The tests and standards agree in general very closely with those given in the B P or B P C and where differences occur it is probable that in most cases the national standards can be brought into line with the international standards without much difficulty. In other cases however the differences are quite significant and it is interesting to note that the standards for opium alkaloids are more stringent narrower ranges for anhydrous morphine content are given for morphine hydrochloride and prepared opium while the range for morphine sulphate is higher than that in the B P.

Storage conditions are given for each substance and the characteristics of the different types of containers which are specified are described in the General Notices the difference between a well closed container and a tightly-closed container is now explained. The meaning of such general terms as freely soluble slightly soluble and sparingly soluble etc. is also clarified by a table giving the approximate solubility associated with these expressions. This should prove a useful guide for compilers of national

area for extension of operations in the second year⁴ have been selected. In a spot spleen survey a spleen rate of 94% was found. A regular post transmission season malarious metric survey of the whole area has been started. Entomological surveys and training of locally recruited staff have also been initiated.

International team members in this project are Dr E B Weeks senior adviser, Mr S K Sobti entomologist and Mr V Venkat Rao sanitarian.

Leprosy Adviser for Ethiopia

Dr Mustafa Kamel, Director of the Amriya Leprosy Colony near Alexandria, Egypt, has been appointed by WHO to undertake a one year assignment as leprosy adviser to the Government of Ethiopia. Dr Kamel will follow up the antileprosy work begun last year by Dr M A K Dalgamouni, whose survey and treatment project was also sponsored by WHO.⁴

Dr Kamel has studied leprosy control in the Philippines and India as well as in Egypt where he has held a number of posts: Inspector of the Leprosy Section of the Egyptian Ministry of Health, Chief Medical Officer of the same Section and Director of the Abu Zaabal Leper Colony near Cairo.

Health Education Aid Given in Ecuador

Mr F Sequeira, a health educator of the Department of Public Health of El Salvador, was sent by WHO to Ecuador where he gave lectures on health education to staff members of the Department of Public Health, the Ecuadorean League against Tuberculosis, members of the Press, the staff of the Department of Public Education, teachers and personnel at health centres. In Guayaquil Mr Sequeira trained four persons in various health-education methods and techniques. In addition he aided the Director General of Public Health of Ecuador in outlining a permanent plan of health education for the republic.

WHO Publishes Vaccination Requirements of 132 Countries

WHO has recently published in its *Weekly Epidemiological Record*⁵ a list of the vaccinations required of travellers arriving by land, sea or air in 132 countries and territories. Most commonly required are certificates of vaccination against smallpox, yellow fever and cholera; inoculation against typhoid and paratyphoid fevers, typhus, diphtheria and tetanus is occasionally demanded.

Publication of this list of requirements does not imply that all have the sanction of WHO. For the majority of the countries listed, these requirements appear for the last time under the authority of the 1944 International Sanitary Conventions, which will be replaced from 1 October 1952 by the International Sanitary Regulations which were adopted by the Fourth World Health Assembly.

⁴ *Ch on Wld Hlth Org* 1951, 5, 8, 58.

⁵ *Wkly ep dem Rec* 1952, 27, Supplement to No. 267, 7 February.



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
WHO fellowship programme	59
Kwashiorkor in Africa	61
Reports of Expert Groups	
Maternity care	66
Control of drug addiction	69
Alcoholism	71
International Pharmacopoeia	76
Review of WHO Publications	
New manual on plague	77
Postmortem detection of plague	78
A world review of smallpox incidence	79
Notes and News	
Nursing	82
Tuberculosis	83
Consultants on assignments in Eastern Mediterranean Region	84

pharmacopoeias and result in more consistent descriptions being given to this physical property

The appendices also follow a pattern similar to that of the B P and much of the material is identical

An alternative method of performing the limit test for arsenic is described in which the brown colour developed in aqueous solution on heating arsenic with hypophosphorous acid is made the basis for comparison. This test is in some continental pharmacopoeias and by the offer of a choice for

their national volume those countries that wish to co operate in the unification will be able to do so without the necessity of drastic changes

Provided the committees responsible for the production of the national pharmacopoeias can be persuaded to be a little more cooperative than their political counterparts there is no reason why the International Pharmacopoeia should not fulfil its declared aim of encouraging a more uniform system for pharmacopoeias throughout the world

WHO FELLOWSHIP PROGRAMME

1951 was the fifth year in which the WHO fellowship programme aided governments by providing opportunities for study abroad for selected personnel. During the year 665 fellowships were awarded to candidates from 74 countries. 511 of these awards were financed by WHO, the remainder being administered by the Organization but paid for by other sources.

Like other Organizational activities, the fellowship programme is following a trend towards decentralization and regionalization. 66% of the 1951 WHO awards were intra regional. This trend is also reflected in the subjects selected for study, these being determined by the needs of individual countries as expressed by regional offices or by governments. A partial list of the subjects for which fellowships were granted last year follows:

<i>Subject</i>	<i>Number</i>
Public-health administration and related subjects	72
Control of tuberculosis, venereal diseases and malaria	101
Sanitation	50
Maternal and child health, paediatrics	48
Nursing	28

Other awards were made for studies in rehabilitation of the handicapped, health statistics and industrial and occupational health, as well as in clinical and medical sciences and education.

An increasingly large number of fellowships are being granted for group training courses, seminars, symposia, etc., many of them sponsored by WHO. Of the 1951 awards 41% were of this nature.

Bases of Awards

WHO fellowships are available to (1) Member States and Associate Members of WHO, (2) trust and other territories for whose international relations WHO Member States are responsible, and (3) territories administered by international authorities established by the United Nations. They are intended to provide opportunities for training which it is not possible to secure in the countries of the candidates for fellowships, to be an integral and essential part of a project or programme planned by a government, and to assist in strengthening health services and thereby to raise the general level of health within a country. They are usually awarded for not more than one year, nor for less than six months, except in the case of special short term fellowships of 30 days' duration for participation in group training courses sponsored by WHO.

An application for a fellowship should be submitted directly to the candidate's government. *Applicants for short term fellowships are generally*

SCHEDULE OF MEETINGS

- 3-8 March** **Expert Committee on Trachoma** first session Geneva
- Included on the agenda of this session are the chemotherapy of trachoma, methods of control of trachoma and acute conjunctivitis applicable in underdeveloped territories, prophylaxis of trachoma in international traffic, and international co-ordination of scientific research on trachoma.
- 14-30 March** **International Symposium on Yaws Control** Bangkok
- WHO in collaboration with the Government of Thailand is sponsoring a symposium which is bringing together experts on yaws control from all parts of the world.
- 18-26 March** **Ad Hoc Committee on Reservations to WHO Regulations No. 2 (International Sanitary Regulations)** Geneva
- This committee is being convened at the request of the Executive Board to consider reservations submitted by Member States to the International Sanitary Regulations. The committee's report is to be sent to all Member States as soon as possible after the close of the meeting and is to be presented to the Fifth World Health Assembly.
- 24 March-5 April** **Working Conference on Nursing Education** Geneva
- Specialists on various aspects of nursing education are meeting under the auspices of WHO to discuss relevant problems. For further information concerning this conference see page 82.
- 9-11 April** **Joint Committee on Health Policy** UNICEF/WHO, New York
- 23-30 April** **Expert Committee on the International Pharmacopoeia** tenth session Geneva
- 1-2 May** **Expert Committee on the International Pharmacopoeia** Subcommittee on Non-Proprietary Names fourth session Geneva
- 5-24 May** **Fifth World Health Assembly** Geneva
- 29 May-7 June** **Executive Board** tenth session Geneva

suitable for publication in one of the Organization's periodicals is returned to the Fellow who may then submit it to other journals provided he states that the work was done under a WHO fellowship but that the observations made and the opinions expressed are not necessarily those of the Organization

Information Booklet Available

To meet the need for a ready source of information concerning its fellowship programme WHO has recently published a pocket size booklet for the use of governments and prospective Fellows¹. Included in this booklet are details concerning the purpose and objectives of the programme the award and duration of fellowships selection of candidates and required assurances travel arrangements payment of stipend publications by Fellows reports fellowships financed by other sources (UNICEF TAED etc) and forms for application

World Health Organization (1952) *The Fellowship Programme of the World Health Organization*
f m t b k l t Gene P b l h d E g l h nd Fre h

KWASHIORKOR IN AFRICA

In late 1950 FAO and WHO sponsored a survey in Africa of a nutritional disorder known as kwashiorkor. This investigation which had been recommended by the Joint FAO/WHO Expert Committee on Nutrition was undertaken by Dr J F Brock¹ WHO consultant in nutrition and Dr M Autret² acting for FAO. Their two month tour took them to Kenya Uganda Ruanda Urundi Belgian Congo French Equatorial Africa (Middle Congo) Nigeria the Gold Coast Liberia the Gambia and French West Africa (Senegal). The report on their inquiry is now available in the WHO Monograph Series³.

What Is Kwashiorkor?

The term kwashiorkor is etymologically linked with the concept of dyspigmentation of the hair or skin its origin being a language of the Gold Coast Colony in which it means 'red boy'. Dr Brock and

P f f th Pr ct f M d U r s y f C p e T w U n a f S o h A f r i
 Ch f A d F l d B h N t r i D Food d A g i c u l t e O g z a t n
 Brock J F & Autret M (1951) *Kwashiorkor* 4f G (World Health Organization Monograph Series No. 8) 78 pages price \$1.00 o Sw f 4 - A l b l E g l h d French
 A Sp h d n h bee p b l h d by FAO El A w h i k Af R m (FAO English)
 N r i l o N 8) 73 p g price \$0.75 d o sal nly th gh FAO les ge ts.

nominated by their national health administrations, the request being sent to the director of the WHO regional office of the region in which the candidate's country is situated

Qualifications of Candidates

Candidates for fellowships should meet the following qualifications

1 They must have not less than two years' experience in the subject they wish to study

2 They must have exhausted the opportunities available in their own country for study of that subject

3 They must choose for study a subject directly connected with the health programme of their country, preference being given to applicants for training which is necessary for a specific project

4 They must undertake, in writing, to continue in, or enter the service of, their national health administration—or a technical institution approved by it—for at least the first three years after their fellowship

5 Normally they should not be over 55 years of age where the retiring age is 60 or above, nor over 50 where the retiring age is below 60

6 They must be able to speak, read, and write the language of the country in which they propose to study

Reports Required

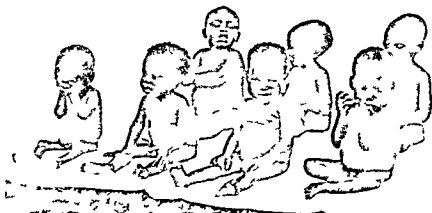
Fellows are required to submit certain reports to WHO during and after their period of study: a monthly report describing the activities of the month and listing the institutions visited and the principal teachers under whom work was done; a final report, upon completion of the fellowship, giving a comprehensive account of the studies and an evaluation of what was learned in relation to its possible application to future work; and semi-annual reports to be submitted for two years after the fellowship ends, describing the Fellow's duties in his post and telling how he is able to apply what he learned during his study period. Governments are also requested to report two years after completion of each fellowship on how the Fellow has been employed since his return, how he has contributed to the national health programme and what further use the government intends to make of his services.

Publications by Fellows

WHO has the first right to publication of any paper which a Fellow writes on work done during his fellowship. A paper which is not considered

which before this were its chief food. While its diet remains unsatisfactory in quality and sometimes in quantity the soup and the inevitable stew which it consumes contain in small quantities vegetables and a variety of other foods such as beans and peanuts fish fairly frequently and sometimes meat. But for a long time the child may be unable to compete with its elders in securing an adequate share of food from the family dish and in obtaining the quantities of protein needed for growth. It is only when it reaches the age of seven or eight years that its increasing status in the family and its activities outside the home (which enable it to obtain additional foods such as grubs etc.) make it possible for its nutritional needs to be more adequately covered."

FIG 1 KWASHIORKOR IN AFRICA I



Group of kwashiorkor cases showing typical symptoms: oedema, pot belly, miserable expression, altered hair texture (second child from left) and dyspigmented hair (child on extreme left).

Although the present state of knowledge concerning kwashiorkor makes it difficult to establish a precise relationship between this syndrome and nutritional deficiencies, observations of dietary practices and incidence of the disorder seem to indicate that the primary factor is lack of protein. The most obvious protein factors to be considered are certain of the amino-acids particularly methionine. However the diets of Africans are markedly deficient in many nutrients and factors such as vitamin B₁, vitamin E and pantothenic acid need to be taken into account as contributory factors in certain features of the syndromes—e.g. pantothenic acid deficiencies might be considered in relation to the dyspigmentation of the hair at least in one of its varieties.

Opinions vary as to the role of parasitic diseases in the clinical manifestations of kwashiorkor but the authors conclude that "whereas tropical parasites are probably always contributory to the etiology of kwashiorkor

Dr Autret while recognizing that kwashiorkor cannot yet be accurately defined offer the following tentative definition

" A nutritional syndrome (or syndromes) found among indigenous Africans in which characteristically there occurs

- (a) retarded growth in the late breast feeding weaning and post weaning ages with
- (b) alterations in skin and hair pigmentation
- (c) oedema
- (d) fatty infiltration cellular necrosis or fibrosis of the liver
- (e) a heavy mortality in the absence of proper dietary treatment and
- (f) the frequent association of a variety of dermatoses

Any clinical syndrome which includes the first five of these characteristics and occurs in Africa can undoubtedly be called kwashiorkor. A similar syndrome occurring in other parts of the world might reasonably be termed kwashiorkor. It seems to merge into other nutritional syndromes such as marasmus and Mehlinahrscha den

Other clinical features which are frequent, if not fundamental in kwashiorkor include

- (1) gastro intestinal disorders, such as anorexia digestive upset, diarrhoea, and mild stertorrhea ,
- (2) peevishness and mental apathy ,
- (3) mild normocytic or slightly macrocytic anaemia becoming more severe when the syndrome is complicated by parasitic infestation
- (4) atrophy of the acini of the pancreas, resulting in decline in the enzymatic activity of the duodenal contents

Etiology

The authors made as detailed a study as possible in the time allotted, of the nutrition of African children and the various factors which influence it. They summarize their findings thus

African mothers do not receive a special supplement to the diet during pregnancy and lactation. The birth weight of African infants is in general below that of European infants. Breast feeding allows the infant to grow fairly normally during the first few months of life. When breast feeding becomes insufficient which often happens before the fourth and sixth months the infant's diet is supplemented by gruels of cassava bananas maize sweet potatoes millet or rice all essentially foods rich in carbohydrate and poor in proteins vitamins and mineral salts. This practice is continued and extended during the period of weaning. The infant is hardly ever given animal milk at this period. On exceptional occasions it may receive a little meat or small amounts of fish. Fruits (mango papaya oranges etc) may be included in the diet from time to time when in season and the same may be said of green vegetables which are usually given in soup. The infant partakes of stews containing different ingredients including chillies which are likely to do it more harm than good. Towards the age of two or three years the young child receives the ordinary adult diet which is in general better than the gruels

and child welfare centres in regions in which kwashiorkor is prevalent through UNICEF assistance if necessary

Prevention

Specific measures are suggested for preventing kwashiorkor these measures aiming at general improvement of the nutrition of Africans

1 Production of foods which prevent kwashiorkor should be increased Fish is particularly important since its production can be expanded more rapidly than that of milk and meat Pulse and vegetables should be cultivated and steps taken to encourage consumption of ground nuts With regard to vegetables attention should be paid to the yield of protein per unit area as well as to the yield of calories Cereals particularly millet and sorghum should be grown wherever possible in preference to manioc Village cultivation of the needed foods should be expanded

2 Provision should be made to relieve shortages of food in the " hungry months " through suitably storing reserve stocks of food both by families and by communities

3 Efforts should be made to educate mothers to improve the feeding of children especially during the weaning period

Consideration might be given to the possibility of attacking kwashiorkor through the demonstration area technique selecting a suitable area in which the condition is prevalent and attempting to introduce and develop preventive measures Such a project might be undertaken jointly by FAO and WHO through the Technical Assistance Programme of the United Nations

Research

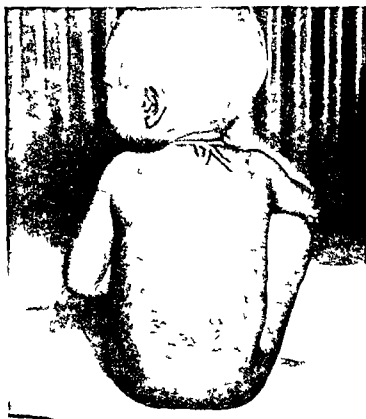
The problem of kwashiorkor offers many opportunities for clinical and biochemical research Among the subjects which should be investigated are the etiology of the dermatoses associated with kwashiorkor the effect of different amino acids and other factors such as vitamin B₁₂ in the treatment of the disorder the value of pulse and vegetables in preventing kwashiorkor and the best methods of cooking and preparing kwashiorkor preventing foods such as " milk substitutes " from ground nuts anthropological and social investigations on the weaning and feeding customs in Africa and quantitative and qualitative studies of the breast milk of African mothers at different stages of lactation and under different maternal diets Dr Brock and Dr Autret suggest that FAO and WHO should stimulate and co ordinate such research in Africa and in other parts of the world in which kwashiorkor is prevalent

in the area surveyed and may sometimes play an important part, it is likely that the dietary factor is always dominant'

Treatment

Treatment of kwashiorkor is based on two simple principles treatment of any infection which may be present and giving large amounts of skim milk and an adequate and varied diet, the last to be introduced gradually

FIG 2 KWASHIORKOR IN AFRICA II



Dermatosis of back associated with kwashiorkor

after the first two or three weeks of treatment with milk protein. In very severe cases it may be helpful in the first few days of treatment to administer human plasma either intravenously at a slow rate into the bone marrow, or subcutaneously in doses of 100 ml daily for ten consecutive days.

The authors recommend that the attention of governments be drawn to the efficacy of skim milk in the treatment of kwashiorkor in its early stage, and that skim milk powder be made available to hospitals and maternity

The teaching of parent craft will be ineffective unless the child has a sound if simple knowledge of human physiology including the physiology of sex. Such instruction should be given in school before puberty and schools should also provide opportunities for free consultations with a medical adviser. Still more detailed teaching and counselling should be given to young people about to marry in order to aid them to understand the emotional and physical relationships which exist between husband and wife and between them and their children.

Because the educational period has been prolonged in many countries young people are economically dependent on their parents at a time when they would naturally wish to assume the responsibility of earning their own income and attaining independence. Marriage is often postponed until the age of 25. The committee calls attention to the serious repercussions which this can have on maternity care since the risks of child bearing increase substantially after the age of 25 and become still further accentuated beyond the age of 30. The committee is of the opinion that an effort should be made to reduce the economic drawbacks associated with the marriage of young adults either by the provision of family allowances or by the adjustment of taxes.

Prenatal Care

Prenatal care presents an unusual opportunity to apply public health practices and the principles of health education. The committee recommends the following optimum standards:

"The mother whose pregnancy is proceeding normally should be examined monthly from her first attendance until the 28th week, every two weeks between the 28th week and the 36th week, and weekly thereafter. On her first attendance a history will be taken and the family situation discussed. A general physical examination will be performed as well as a more detailed abdominal and pelvic examination. The urine will be tested and the blood pressure taken and the weight recorded at each visit. The examination of the blood will include an estimation of the haemoglobin level and a serological test for syphilis. Care of the teeth should be included in prenatal supervision.

The committee compares the ease with which many women in economically underdeveloped countries give birth to children and the difficulties which women in more developed countries sometimes experience. This complication is very often due to psychological factors. The hospital environment which deprives these women of the moral support received when delivered in their own homes is also sometimes the cause of a long delivery. In view of these factors the committee suggests that instruction in relaxation and prenatal exercises should be encouraged. In addition it endorses the recommendation of the Expert Committee on Mental Health that both father and mother should be given information on the physiology of gestation and childbirth, body changes and changes of mood, sexual

Reports of Expert Groups

MATERNITY CARE

Experience has shown that, in order to succeed, any programme of maternity care must be planned in relation to other aspects of curative and preventive medicine. It is impossible, however, to lay down a detailed plan which would be applicable to all countries. Certain standards of care are recommended in the first report of the Expert Committee on Maternity Care which will be published on 10 June 1952 as No 51 in the *World Health Organization Technical Report Series*¹. The committee recognizes that while some specific recommendations will apply to all areas of the world others must differ according to whether they are applied to the economically more developed areas or to the areas economically less developed with different cultural patterns and a strong community life.

Definition

The committee emphasizes that child bearing is essentially a physiological process and defines maternity care as follows:

The object of maternity care is to ensure that every expectant and nursing mother maintains good health, learns the art of child care, has a normal delivery and bears healthy children. Maternity care in the narrower sense consists in the care of the pregnant woman, her safe delivery, her postnatal examination, the care of her newly born infant and the maintenance of lactation. In the wider sense it begins much earlier in measures aimed to promote the health and well being of the young people who are potential parents and to help them to develop the right approach to family life and to the place of the family in the community. It should also include guidance in parent craft and in problems associated with infertility and family planning.

Premarital Period

Health education should include the teaching of parent craft. This teaching, known in some countries as family life education, deals with the physical, mental and emotional needs of children, the importance of good health in the parents and of good nutrition in all age groups, the place and responsibilities of the father in the home, the place of the home in the community and a knowledge of community health problems and resources. Formal teaching of parent craft should be preceded by instruction in the home, the parents giving simple and straightforward answers to the young child's questions. The committee points out that in many of the more developed areas no instruction of this kind is given either in the family or in the school.

CONTROL OF DRUG ADDICTION

At its second session the *Expert Committee on Drugs Liable to Produce Addiction* established certain basic definitions at the request of the Commission on Narcotic Drugs of the United Nations Economic and Social Council¹ These definitions are further clarified in the third report of the committee which will be published on 15 May 1952 as No 57 of the *World Health Organization Technical Report Series*²

Definitions

In attempting to clarify the distinction between addiction producing drugs and habit forming drugs the committee delineates the following groups

1 There are some drugs notably morphine and morphine like substances whose specific pharmacological action will always produce compulsive craving dependence and addiction in any individual Addiction will develop sooner in those individuals whose psychological make up leads them to seek escape in the pharmacological action of drugs However with these drugs the pharmacological action is paramount and the psychological make up adjuvant These drugs must be rigidly controlled

2 Other drugs never produce compulsive craving yet their pharmacological action is found desirable by some individuals and may readily form a habit of administration—an habituation Administration of these drugs can be interrupted without significant disturbances Because with them the psychological make up is paramount and the pharmacological action adjuvant these drugs cause no sociological damage and do not need rigid control

3 The third group comprises drugs whose pharmacological action is intermediate in kind and degree between the other two groups With these substances psychological make up is the determining factor but pharmacological action plays a significant role In some instances individual and sociological damage may develop but since the incidence of damage is not general the type and degree of control of drugs of this group are better left to national consideration

The committee points out that only the expressions "drug addiction and addiction producing drugs" should be used in documentation with respect to substances brought under or to be brought under international control

¹ *Wld Hlth Org t hn R p S* 1950 21 6 see Iso Ch ² *Wld Hlth Org* 1950 4 76.
² *Wld Hlth Org t h R p S* 1951 57 14 p ges price 9d \$0.10 Sw fr 0.40 o F f 30.—

relationships during pregnancy, the purpose of examination procedures, preparation for labour, and the care, both physical and psychological, of the infant

In certain areas nutritional anaemia and other dietary deficiencies account for a very large proportion of maternal deaths and morbidity, and also contribute to faulty lactation. In addition to food priorities for expectant and nursing mothers if possible a food advice bureau should be established in each prenatal clinic where instructions and demonstrations could be given

Labour and Delivery Period

The economically less developed areas have been investing capital in institutions or maternity hospitals at the expense of improved domiciliary care. On the other hand, in some more economically developed countries an emphasis is at present being placed on home delivery. While the committee is unanimous in the opinion that all abnormal cases should be delivered in a hospital, it feels that the problem of whether hospital or domiciliary delivery should be encouraged for normal cases has still to be solved. Given favourable circumstances home delivery offers a high degree of safety and presents several advantages from an emotional and psychological point of view. The safety of home deliveries depends upon the suitability of the home situation, the availability of a mobile unit (emergency flying squad), and the access to hospital facilities

Postnatal Care

In no circumstances should postnatal care be entrusted to unskilled personnel and if any complications should occur, a qualified obstetrician should be called. The mother should receive her first postnatal examination during the second week and her second some time between the fourth and sixth weeks after delivery. When an adequate number of beds is available the duration of hospital stay should be approximately ten days.

In some countries the new born infant is often separated from the mother. This practice has recently been reconsidered and every encouragement is now being given to keeping the infant close to the mother during the stay in the hospital, the baby's bassinet being at the mother's bedside. However in planning maternity hospitals provision must be made for small nurseries for the baby whose mother is ill or for the baby who is restless at night

N methylmorphinan β 1 methyl 3 ethyl-4 phenyl-4 propionoxypiperidine
The salts of various other synthetic derivatives of the pethidine and methadone types which were characterized in an earlier session as addiction producing should also fall under the same regime

Sharp differences in the intensity and duration of the action of methadols and acetylmethadols (derived from methadone and its isomers) are noted particularly with respect to oral and parenteral administration. As some of these drugs are liable to produce addiction and as they are very similar in structure and action all methadols and acetylmethadols must probably be considered as drugs liable to produce addiction

Barbiturates

After carefully considering the situation with regard to the use and abuse of barbiturates throughout the world the committee expresses the opinion that measures should be taken at a national level to strengthen control over these substances. Such measures might include (1) dispensing them only on prescription (2) specifying the number of times the prescription may be refilled or repeated and (3) keeping a careful record of each prescription

Amphetamine and its derivatives

Attention is called to the common use by addicts of amphetamine and its methyl derivative when morphine or morphine like substances are not available. Close watch should be kept on the use of these drugs so that appropriate measures for their control may be taken if this should become necessary

Cannabis sativa L

With regard to cannabis preparations the committee expresses the opinion that they are practically obsolete there being so far as it can see no justifiable medical use for them

ALCOHOLISM

Specific and practical aspects of the problem of alcoholism were examined by the Alcoholism Subcommittee of the Expert Committee on Mental Health when it met for its second session in Copenhagen in December 1951. The report on this subcommittee's discussions and recommendations will be available soon as No. 48 in the *World Health Organization Technical Report Series*¹

Requests Submitted by Governments

Ipecopan

The committee in noting a new request from the Swiss Government concerning Ipecopan malted tablets Ipecopan solution Ipecopan malted syrup Ipesandrine sugar coated tablets, Ipesandrine solution, and Ipesandrine syrup recommends that these preparations, containing less than 0.2% anhydrous morphine compounded with other medicaments be exempted from the provisions of the 1925 Convention

Morpholinylethylmorphine

New information on the addiction liability of morpholinylethylmorphine and its convertibility into an addiction producing drug led the committee to re examine the French Government's request concerning the classification of this substance. As this information shows that morpholinylethylmorphine is not more liable than codeine to produce addiction and is less readily convertible to an addiction producing drug than codeine the committee considers that it is assimilable to the drugs mentioned in Group II of Article 1 of the 1931 Convention i.e., the so called codeine group which is subject to less severe control than other ethers of morphine

Addiction producing Drugs

Morphine derivatives

The committee reiterates its opinion expressed in previous reports regarding the gravity of the diacetylmorphine situation and considers that the complete abolition of legally produced diacetylmorphine in the world would facilitate the struggle against illicit use of this substance. In reference to the request for information circulated to governments by the Director General of WHO the report states that there are 50 Member States who have discontinued or are willing to discontinue the medical use of this drug. Further steps will be taken in this matter.

The antagonistic action of *N*-allylnormorphine to the analgesic respiratory and other effects of morphine indicates the possibility of its clinical use to counteract overdosage of morphine or morphine like substances and its employment in obstetrics against foetal respiratory depression which may occur after administration of these drugs. Liability to its use by addicted and previously addicted individuals is very slight.

Synthetic substances

The committee recommends that the following substances and their salts should fall under the regime laid down in the 1931 Convention for drugs specified in Article 1 paragraph 2 Group 1 3 hydroxy *N*-methylmorphinan (known also under the proprietary name Dromoran) 3 methoxy

A note prepared by Dr E M Jellinek entitled *The phases of alcohol addiction in males* (given in an annex to the report) greatly contributes to the clarification of the developmental process of alcoholism. It is based on a *rigorous statistical analysis of the drinking habits of over 2 000 male alcohol addicts* and depicts the course of alcohol addiction which is one form the most extreme form of alcoholism. The process of development begins with a stage which can be designated as *symptomatic drinking*. All forms of excessive drinking begin with a symptomatic stage and under certain conditions this stage may be extremely prolonged and may not develop further. If in the course of time dependence upon alcohol develops to the degree described in the subcommittee's definition of an alcoholic one may speak either of *habitual symptomatic drinkers* or of *symptomatic drinkers with addiction*. A close study of the developments described in Dr Jellinek's note will show that each of the three categories proposed in the subcommittee's classification may be formulated with such definitiveness that surveys and experiments may be carried out on well defined alcoholic populations.

Treatment Facilities

The subcommittee suggests that public care of alcoholics proceed at four levels determined by the phase to which the alcoholic process has progressed and the degree of psychiatric involvements.

- (1) early alcoholism and alcoholism without gross neurotic origins
- (2) alcoholism at the middle stages of the process and alcoholism with primary neurotic characteristics
- (3) alcoholism in the chronic stage and alcoholism with psychotic involvements
- (4) alcoholism with apparently irreversible deterioration

Outpatient clinics

The treatment of early alcoholism and alcoholism without serious psychiatric involvement requires an outpatient clinic attached to a general hospital rather than to a mental hospital. Alcoholics in the early phases of the disease and alcoholics without serious neurotic encumbrances are unwilling to go as outpatients to mental institutions in countries where this involves a certain stigma of mental abnormality. As the outpatient clinic of the general hospital should deal with the early and uncomplicated cases only—constituting the majority of the alcoholic population—the psychotherapeutic requirements of such a clinic may be minimal. Supportive psychotherapy is sufficient to set up and reinforce the motivation of the alcoholic to stop drinking. This involves the restitution of self respect and self confidence, a diminishing of the guilt feeling which arises out of drinking behaviour and a briefing of the alcoholic on the mode of life which

The subcommittee emphasizes that, although the importance of protective measures should not be underestimated, progress in the various phases of the problem of alcoholism is most feasible only after the large number of alcoholics throughout the world has been considerably diminished through a large scale rehabilitation effort. It also points out the importance of publicity measures in the treatment of alcoholism, once the public understands the disease nature of alcoholism, a much greater acceptance of preventive measures may be expected.

Definition and Classification

The subcommittee defines excessive drinking as "any form of drinking which in its extent goes beyond the traditional and customary dietary use, or the ordinary compliance with the social drinking customs of the whole community concerned irrespective of the etiological factors leading to such behaviour and irrespective also of the extent to which such etiological factors are dependent upon heredity, constitution or acquired physiopathological and metabolic influences. Alcoholics are then those excessive drinkers whose dependence upon alcohol has attained such a degree that it shows a noticeable mental disturbance or an interference with their bodily and mental health, their interpersonal relations, and their smooth social and economic functioning or who show the prodromal signs of such developments. They therefore require treatment."

The existence of many different classifications of alcoholics is one of the reasons which prompts the subcommittee to suggest a classification of cases by broad groups into which there will be no difficulty in fitting the many subdivisions of other existing classifications. Most of these classifications have failed to achieve general agreement either because they are entirely descriptive or, on the other hand, because they presuppose views on the etiology of the different types which are not shared by more than a minority of students of alcoholism. Furthermore, many of the headings proposed in existing classifications are based on the study of a patient at a particular moment in the course of the development of his disorder. Such a classification inevitably means that the same patient may well be placed under different headings of the classification at different periods of his disorder.

The subcommittee's classification which follows attempts on the one hand to avoid begging etiological questions and on the other to avoid becoming involved in detailed discrimination on a symptomatic basis.

- | | |
|--|--------------|
| (1) Irregular excessive symptomatic drinkers | } Alcoholics |
| (2) Habitual excessive symptomatic drinkers | |
| (3) Addictive drinkers | |

The two latter groups comprise the alcoholics proper

be taken to ensure periodic revision of the diagnosis. If such a course is indicated the patient in custodial care may be referred to active therapy.

Disulfiram²

The administration of disulfiram is but one of the many aids in the treatment of alcoholics. Although it is not in itself a cure its value in certain well selected cases is such that the subcommittee decided to discuss its use in detail. The failures which have occurred are due to its administration to patients who were unsuitable for its application and were forced to submit to it. In general the first essential in choosing patients for this treatment must be their sincere desire for help and a recognition of their inability to control their drinking.

There are some contra indications to the use of disulfiram based on the patient's physical condition. The drug must never be employed in persons with hepatic or circulatory disorders. It may also be contra indicated in persons with diabetic or renal disorders although the subcommittee recommends that further study of this question should be undertaken.

Most patients who come for treatment voluntarily and are neither psychopathic personalities nor feeble minded should receive disulfiram treatment in an outpatient clinic where large scale rehabilitation work with alcoholics is carried out. An outpatient dispensary service situated in a well equipped general hospital or working as an independent institution would be best suited for this purpose. Before treatment is started it is necessary to make a full physical examination including an analysis of the urine, an electrocardiogram and a blood sedimentation rate. If the patient is in a bad general condition or seriously intoxicated he should be admitted to the hospital where his condition should improve sufficiently within a week to allow the administration of disulfiram to begin. Two tablets (0.5 g each) should be given on the evening of the first day and one tablet on each of the following five to six days. At the end of a week's treatment the patient's condition should be re-examined. If it proves satisfactory he may then receive a maintenance dose of half a tablet every day.

The subcommittee recommends that an alcohol test be made during treatment in all cases unless the physician is sufficiently confident that the patient is fully co-operative and most unlikely to try the effect of drinking. If the test is not performed it is essential to warn the patient of the grave risk which will result from taking alcoholic beverages. When the test is undertaken it should be remembered that it provides the opportunity for powerful suggestion and must be carried out in such a way as to increase this effect. The heavy drinker will be impressed to find that the apparently trivial amount of three teaspoonfuls of whisky or a third of a bottle of beer can produce an obvious disturbing reaction.

²Disulfiram is the proprietary name for tetraethylthiuram disulfide, most commonly known as A. C. M. A. Abt. 1941, D. R. F. 1.

will make it possible for him to carry on without alcoholic anaesthesia. It also requires a full understanding on the part of the patient that no form of drinking is possible for him without relapsing into gross alcoholism.

In view of the large proportion of alcoholics who can be treated at this level the necessity for hospital beds and special inpatient facilities for the treatment of chronic alcoholism has been overemphasized. It is unwise to organize the treatment of a large number of alcoholics around an inpatient set up although it is desirable to have such facilities available for the occasional cases of acute alcoholism or alcoholic psychosis. From the patient's standpoint the emphasis in an outpatient clinic is laid on the medical aspects of the problem which is as it should be.

Facilities at the second level of treatment

At this level intensive psychotherapy is required. If the alcoholic whose drinking behaviour originates in gross neurosis is to be helped successfully to live without alcohol it is necessary to give him insight into the conflicts which he is trying to solve through the use of alcohol and to bring about an emotional readjustment which obviates the use of artificial means. In theory the care of alcoholics at this level is feasible in any community which has a psychiatric or psychoanalytic outpatient department or a mental hygiene clinic. In practice however, these facilities are rarely available to alcoholics because of the resistance of the clinic staff to their admission. It has been seen that staff do not wish to open the service to alcoholics because they fear a great influx of patients.

It may be desirable to merge treatment of alcoholics at the first two levels into one clinic rather than try to persuade psychiatric and mental health clinics to extend their services to alcoholics. If this is done the outpatient clinic's staff will have to consist of one half time psychiatrist, one full time assistant psychiatrist, one half time internist, two full time social workers and one full time secretary. A clinic of this type should be able to deal with 350 to 400 alcoholics per year.

Treatment at the third and fourth levels

At these levels intramural treatment such as is available in public mental hospitals is necessary. In many countries mental hospitals admit alcoholics only when diagnosable psychosis is present. The subcommittee recommends that through amendment of the admission laws the facilities of such hospitals be extended to alcoholics without psychosis who fall into the categories described at the levels three and four. It is also desirable that contact and co-operation be maintained between clinics and hospitals at the various treatment levels.

At the fourth level only custodial care seems to be feasible yet the degree of deterioration may sometimes be misjudged and measures must

should be used more widely for pharmacological purposes. It is noted that in many countries the pharmacist is required by law to control the drug dispensed and that difficulties could therefore arise if expensive instruments were necessary for pharmacological assays. It is nevertheless decided that while methods employing simpler equipment should be used as far as possible, new methods giving dependable results with a great saving of time ought to be introduced. The Karl Fischer method for the determination of water and microchemical reactions including the preparation of derivatives on a micro scale are among the new methods to be given priority.

In discussing the problem of the protection of international non proprietary names, the Subcommittee on Non Proprietary Names whose report is contained in an annex to this report of the Expert Committee on the International Pharmacopoeia suggests that manufacturers seeking new names should approach WHO through their national pharmacopoeia commissions or national health administrations. The importance of having the names selected on an international level by WHO in the first instance is stressed in the report. An appendix contains a list of the Latin, English and French international non proprietary names together with their appropriate chemical names or descriptions agreed upon at the subcommittee's third session.

Review of WHO Publications

NEW MANUAL ON PLAGUE

A *Manual on plague* to be published by WHO is now in the course of preparation. The first chapters of this work have already appeared in the last two numbers of the *Bulletin of the World Health Organization*¹ under the title *Plague Studies*. Succeeding chapters will be published in forthcoming numbers of the *Bulletin*. The task of writing this manual which purports to represent the sum total of present knowledge of plague has been entrusted to Dr R. Pollitzer, an expert of worldwide reputation who collaborated on the two treatises which have been the authority on this subject for the past quarter of a century.

In 1926 *A treatise on pneumonic plague*² appeared under the auspices of the League of Nations. In 1936 Wu Lien-teh, J. W. H. Chun, R. Pollitzer & C. Y. Wu published at the request of the National Health Administration of China (Weishengshu) a book in both English and Chinese entitled

¹ *Bull. World Hlth Org.* 1951, 4, 475, 1952, 5, 73.

² *W. L. -teh (1936) A treatise on pneumonic plague* G. (Le gue) N. p. blcat. C.H. 474).

During the first three to four weeks of disulfiram treatment the patient should receive psychotherapy combined with social therapy, that is skilled assistance from a trained social worker. For cases requiring intensive psychotherapy the possibility of psychoanalytically based group therapy should be considered. The experimental use of group therapy of this type for alcoholics has proved promising and should this promise be fulfilled it will obviously be of great value in overcoming the difficulty of providing intensive individual psychotherapy on the scale necessary for a large-scale programme for the early treatment of alcoholism.

INTERNATIONAL PHARMACOPOEIA

Volume I of the *Pharmacopoea Internationalis* (Ph I) was published in October 1951 both English and French editions being available simultaneously. The Spanish translation is to appear later. Special low rates for bulk orders of the book can be arranged by WHO for countries wishing to adopt the work as their national pharmacopoeia.

The importance of publishing volume II as soon as possible is stressed in the ninth report of the Expert Committee on the International Pharmacopoeia which will be published, as No. 50 in the *World Health Organization Technical Report Series*¹ on 1 June 1952. This volume of the Ph I would then be available together with volume I, for adoption by countries which have no national pharmacopoeia or whose pharmacopoeia is out of date. The preparation of the first edition of volume II is discussed in the report stating that 134 monographs on pharmaceutical preparations and 9 appendices covering analytical methods etc. have been completed up to the present time.

The Executive Board has approved a resolution inviting the Director General of WHO to take the steps necessary between the States signatories to the Brussels Agreements of 1906 and 1929 for the unification of pharmacopoeial formulas for potent drugs to terminate these Agreements. The text of a draft Protocol for this purpose is an annex to the report of the Expert Committee on the International Pharmacopoeia.

In earlier sessions of the committee the question of how far new methods of analysis should be introduced in the Ph I had arisen. From the results of experimental work carried out by several members it can be seen that some of these modern methods require expensive apparatus not commonly found in pharmacies such as the spectrophotometer, the fluorometer and the polarograph. The committee discusses in detail whether these methods

¹ *World Hlth Org. techn. Rep. Se.* 1952 50 33 pages, price — \$0.25 Sw fr 1 — or Fr fr 40.—

The technique of postmortem diagnosis consists of tapping the liver lungs and buboes by means of a syringe. The serous fluid thus collected serves on the one hand for preparing smears and on the other for inoculation after dilution in normal saline into guinea pigs. Microscopic examination of the smears frequently gives an almost unequivocal indication; inoculation should always be carried out however since in addition to providing verification it permits the discovery of many plague cases which would otherwise have remained undetected.

Thirty years' experience in Madagascar has confirmed the value of this system of investigation which has been applied to tens of thousands of corpses and has been responsible for the detection of about 85% of the recorded cases of human plague, only 15% being discovered during the course of the disease.

A WORLD REVIEW OF SMALLPOX INCIDENCE

An epidemiological study on the incidence of smallpox throughout the world prepared by Dr L. H. Murray of the International Quarantine Section WHO was published in the *Epidemiological and Vital Statistics Report* in late 1951¹. This study which covers the period from 1939 to 1950 brings up to date the information presented in two previous reviews².

Endemic foci of smallpox lie mainly but not exclusively in Africa, Asia and South America. Other continents are at risk from these endemic sources though usually an epidemic results from importation of the infection only where public health services are inadequate or when adverse internal conditions impede the functioning of the services which do exist.

Africa

Smallpox infection had for some time been on the wane or even absent in many countries of Africa during the years preceding the second World War but numerous outbreaks occurred between 1941 and 1951 in Algeria (1941-4), Anglo-Egyptian Sudan (1947-8), French Cameroons (1943-4, 1950-1), Egypt (1943-6), Liberia (1944-6), Morocco (1941-7), Northern Rhodesia (1945), Sierra Leone (1944-6), Southern Rhodesia (1947), Tripolitania (1946-9), Tunisia (1946-9) and Uganda (1944). There is a high incidence of smallpox in French West Africa despite large scale vaccination; the same is true of the Gold Coast where variola major is the prevalent infection. In Nigeria the disease exists in severe endemic form; annual incidence is high and epidemic outbreaks are common.

Epidemiol. & Statist. Rep. 1951, 4, 398.

Stowen, K. (1945) *UNRRA epidem. Bull.* 1, 371. F. Bre J. (1948) *Epidemiol. & Statist. Rep.* 1, 69.

*Plague a manual for medical and public health workers*² This work rapidly became a classic and still remains a valuable working tool. However it has been out of print for some time and has not been reissued.

Research on the prevention and treatment of plague has made such progress during the past 15 years that a new evaluation has become urgent. A reissue of the 1936 publication would not suffice, particularly since it was especially concerned with plague control in China. Therefore Dr Pollitzer, who alone among the authors of the previous volumes has continued his activities in plague control during and since the second World War, is writing the *Manual on plague* from a new approach.

The first chapter of the manual contains a summary of the history of plague epidemics throughout the centuries and a survey of the present world distribution of the endemic. Succeeding instalments deal with the plague bacillus, problems in the immunology and the anatomo- and physiopathology of plague, practical laboratory work, rodents and other hosts of the infection, insect vectors, clinical aspects and ecological and epidemiological factors. The work will conclude with practical guidance concerning prophylaxis and the management of outbreaks and an account of the international aspects of the problem of plague.

This manual, which it is planned to publish in 1953, will appear in two editions: one in English and the other in French.

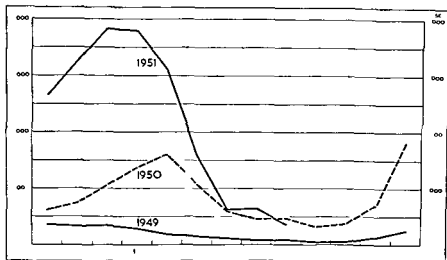
² Wu Lien-ich, Chun J. W. H. Pollitzer R. & Wu C. Y. (1936) *Plague a manual for medical and public health workers*. Shanghai.

POSTMORTEM DETECTION OF PLAGUE

In territories where plague is prevalent, the delimitation of the endemic zones requires the detection of all cases. However, among populations in too low a state of development to comply with regulations concerning pestilential diseases, especially with a system of notification, it has been necessary to take measures for estimating the plague mortality rate. Thus in Madagascar, which is continually threatened by outbreaks of pneumonic plague, postmortem investigation to detect plague infection has been found necessary in widespread areas.

In a recent number of the *Bulletin of the World Health Organization*¹ Dr G. Girard, Chef du Service de la Peste at the Institut Pasteur, Paris and former director of the Institut Pasteur at Tananarive, explains the reasons for the systematic tracking down of plague cases in Madagascar and describes the procedure for postmortem diagnosis.

FIG 4 SMALLPOX CASES REPORTED IN PAKISTAN BY FOUR WEEK PERIOD
1949-51



in 1946-7 in Japan in 1945-6 in the Philippines in 1948-9 and in Turkey (the part in Asia) in 1942-5 Saudi Arabia which is relatively free from smallpox is endangered yearly during the season of the Mecca Pilgrimage an outbreak due to an importation occurred in 1949 and lasted until April 1950

A continuously high incidence of smallpox is reported in Burma and Iran

The State of Israel despite the public health problems arising from mass immigration reported only 14 cases of smallpox in 1949 11 cases in 1950 and 1 case in the first six months of 1951

Figures for smallpox incidence in China and Korea are difficult to obtain It is known however that the island of Formosa after having been free from the disease from 1940 to 1942 suffered an epidemic in 1946-7 In early 1951 extensive epidemics of smallpox and typhus occurred in North Korea and scattered cases to the extent of some 100 a week broke out among the civilian population and the refugees in South Korea

America

The Americas occupy a position midway between an endemic home of the disease and a receiving area at risk North America with the exception of Mexico—where a serious endemic form of the disease exists—is relatively free from smallpox In South America however the disease is endemic over a large area variola minor predominating particularly in Brazil and Peru

Smallpox incidence in the USA was higher before the second World War than it was during and since the war In none of the years between 1944

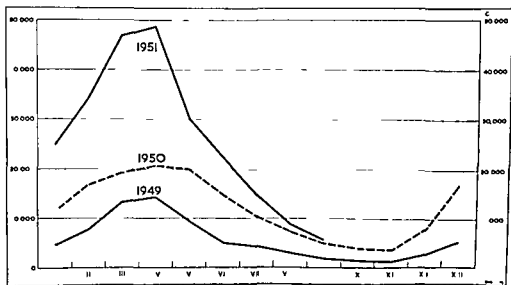
While considerable progress has been realized in recent years in bringing smallpox under control in several territories of Africa—this control being more effective in some areas than in others—it is as yet impossible to limit the spread of each new focus as it appears. In general the larger seaports are maintained free from smallpox, which aids in preventing exportation of the infection to other continents.

Asia

Asia is still the main endemic home of smallpox and the chief source of exportation of the disease to other countries. Endemicity is apparent in Afghanistan, Cambodia, India, Iraq, Pakistan and Viet Nam. There is a close relationship between the incidence of the disease in India and in Pakistan, though the situation is much more serious in India. Figures 3 and 4 illustrate the number of smallpox cases reported in these countries in 1949-51.

As in Africa, many epidemics of smallpox occurred between 1940 and 1951 in Asia, even in countries which had achieved a large measure of control during the pre-war years. An epidemic in Iraq in 1940 spread in 1940 to Lebanon, Palestine, the Hashemite Kingdom of the Jordan, and Syria; another epidemic in Iraq in 1947 again affected Syria, Lebanon, and the Hashemite Kingdom of the Jordan in the following year. Importation from other countries was responsible for outbreaks of smallpox in Ceylon in 1941, 1943 and the succeeding years through 1946 and in Indonesia in 1949-50. Epidemics were reported in the Federation of Malaya

FIG 3 SMALLPOX CASES REPORTED IN INDIA BY FOUR WEEK PERIOD 1949-51



Preliminary plans for the conference were made by Miss Kathleen M. Leahy, special short term nursing consultant. Miss Leahy is Director of the Public Health Nursing Programme of Studies at the University of Washington School of Nursing, Seattle, Washington, USA.

In addition to nursing educators, participants include Mr S. W. Barnes, House Governor, King's College Hospital, London; Miss Cora Du Bois, Social Science Consultant, Institute of International Education, Washington, D.C.; and Professor W. C. Ryan, Emeritus Professor of Education, University of North Carolina, Chapel Hill, N.C., USA.

Nursing education project in Mexico

A six month training course for nursing instructors was begun in Mexico City on 13 January with WHO technical assistance. This course, which is giving instruction to 30 trainees, includes theoretical and practical nursing principles and methods of teaching sociology, mental health, clinical supervision in nursing, nutrition, and advanced Spanish. Students are to return to their own institutions for the last two months of the training to begin "practice teaching" under the close supervision of the instructors of the course.

Upon completion of the training, five of the most capable of the nurses who have attended will be selected for fellowships to enable them to take more advanced study outside Mexico and to prepare them for teaching special subjects such as surgical and paediatric nursing.

Tuberculosis

India

Expansion of the BCG vaccination programme which has been under way in different parts of India since 1949 is being planned. Projects which were originally assisted by the Joint Enterprise are now being aided by WHO and UNICEF, which are providing international personnel to train local teams and the necessary supplies, equipment, and transport. Recently 38 new vehicles—jeeps and 4-wheel drive station wagons—arrived in India, some of which are to be used in tuberculosis-control activities in Madhya Bharat, Punjab, and Uttar Pradesh.

Experience gained in the pilot BCG vaccination projects of the past few years has demonstrated that a team composed of one doctor and six technicians can cover a population of more than 100,000 per year. About 300 doctors and vaccinators are already engaged in BCG vaccination activities in India. Cumulative totals for the Indian projects as of the end of January 1952 are: tested 2,410,679; vaccinated 730,574.

China

It is reported that vaccination of schoolchildren is almost completed and vaccination of preschool age children is in progress in the BCG project which began in May 1951 in Formosa. Figures for December were 86,196 tested and 56,102 vaccinated; cumulative totals at the end of January 1952: 722,376 tested and 479,389 vaccinated.

Philippines

Dr A. Geser of Denmark has assumed the post of WHO senior adviser to the Government BCG vaccination programme in the Philippines. Dr Geser was Chief of the Joint Enterprise mission to Ceylon and also served with other Joint Enterprise teams in Poland, Lebanon, and Syria.

and 1946 did the total number of cases exceed 400, by 1947, it had dropped to 173 cases and this decline seems to be continuing. It is interesting to note that with the decline in incidence has come an increase in case fatality rate: in 1939-40, it was less than 1% by 1948, it had risen to about 10%. This may probably be explained by the fact that the sporadic and isolated cases which now arise in the USA are of the variola major type, imported from time to time from abroad.

Europe

Information concerning the incidence of smallpox in Europe is incomplete since reports are no longer available from a number of countries. Generally speaking, Europe may now be regarded primarily as a continent in which the chief threat from smallpox arises from importation from outside countries: all endemic foci having been eliminated except for Portugal.

Variola major was imported into England and Wales in 1946 and 1947 by returning servicemen but these importations were rapidly controlled and in the main cases were limited to direct contacts. The person who imported the smallpox was often well vaccinated himself and possessed a degree of immunity which made his attack of the disease so mild that he failed to seek medical advice; consequently, the disease was recognized as smallpox only when the secondary cases began to appear.

The only significant epidemics in Europe during the last decade occurred in Italy (1944-6) and in Greece (1943-4).

Oceania

Oceania (comprising Australia, New Zealand, New Guinea and the South Pacific islands) is pre-eminently the continent at risk from smallpox. No endemic foci exist within its boundaries and no outbreaks have been reported during the last ten years.

Notes and News

Nursing

Working conference on nursing education

A WHO working conference on nursing education opened in Geneva on 24 March and will continue until 5 April. This conference which has as its theme "Nursing education in the light of changing health and medical care programmes" has brought together nursing educators from nine countries—Brazil, Canada, Finland, France, India, Switzerland, the United Kingdom, the USA and Yugoslavia.



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
Executive Board ninth session	87
Venereal disease control demonstration in India	90
Reports of Expert Groups	
Health needs and nursing personnel	98
Environmental sanitation services and personnel	101
Review of WHO Publications	
Experiments in BCG standardization	104
Studies of the antigenic composition of influenza B viruses	106
Dried smallpox vaccines	106
Notes and News	
Venereal-disease-control projects for Pakistan	107
Malaria	108
Technical assistance for Finland	109
Emergency aid in control of cerebrospinal meningitis	109
Seminar on health and human relations	109
Associate membership of WHO requested for Tunisia	110
Views on WHO	
Tribute to WHO	110

BCG vaccination activities are already in progress in the Philippines having been undertaken by national teams as part of a programme in tuberculosis control. Head of the national operations is Dr Bona de Santos who is a WHO Fellow recently completed a six month study of BCG vaccination in Europe.

Consultants on Assignments in Eastern Mediterranean Region

Iran

A survey of the major nutritional problems of Iran is being made by a WHO consultant Dr J C Thomson of New York on leave from the International University of Tokyo. Dr Thomson who has had more than 20 years experience in nutrition in China is already known in Teheran last year he lectured at the Medical College of the University of Teheran and at the same time worked on a special project conducted by the Ministry of Health and the Rockefeller Foundation on nutritional aspects of public health. His present assignment is of two months duration.

Lebanon

Dr Edyth Morris of Johannesburg, South Africa has gone to Lebanon as leader of a WHO/UNICEF maternal and child health demonstration team. Assisted by public health nurses and a matching team of national personnel Dr Morris will supervise the establishment in Beirut of a demonstration and training centre for maternal and child care. The Government of Lebanon is providing building facilities as well as the matching staff and expects to continue the project after international personnel have withdrawn.

EXECUTIVE BOARD

Ninth Session

The ninth session of the WHO Executive Board was held in Geneva from 21 January to 4 February 1952. The Board's meeting was preceded by that of its Standing Committee on Administration and Finance which began its session on 7 January.

Among the decisions reached by the Board at this session were

Approval of the programme and budget proposed by the Director General for 1953. If approved also by the Fifth Health Assembly the budget will amount to \$8 490 000 which represents an increase of \$812 000 over that of the current year.

Recommendation to the Fifth Health Assembly that a Committee on Programme and Budget be established in the belief that the annual programme and budget are inseparable in the deliberations of the Assembly. This committee would (1) review the Annual Report of the Director General (2) *study and make recommendations on the general programme of work for 1953-6* (3) recommend the budgetary ceiling for 1953 (4) review and recommend the programme and budget for 1953 including the amounts to be devoted to each section of the total budget and (5) study such other items as are referred to it by the Health Assembly. The establishment of a Committee on Administration, Finance and Legal Matters was also recommended: this committee to (1) review the financial position of the Organization (2) determine the scale of assessments for 1953 (3) review that part of the budget for 1953 dealing with organizational meetings and administrative services and report thereon to the Committee on Programme and Budget and (4) study such other items as are referred to it by the Health Assembly.

Revision in the methods of work of the Executive Board whereby the Board in plenary session shall prepare an overall report for the Health Assembly both on technical questions connected with the programme of the Organization and on administrative and budgetary questions setting up such subcommittees or working parties as it may find necessary for accomplishing this task.

Establishment of international shigella centres. Two centres are to be provided for in the programme and budget estimates for 1954. One is to be located at Atlanta, Ga., USA and the other at Oxford, England.

Inclusion of the *Escherichia* group of micro organisms in the studies made at the International Salmonella Centre at the Statens Serum Institut, Copenhagen, Denmark. This entails proposing to the Government of Denmark that the agreement between that Government and WHO concerning the International Salmonella Centre be amended to include the

SCHEDULE OF MEETINGS

- | | |
|---------------|---|
| 9-11 April | Joint Committee on Health Policy UNICEF/WHO New York |
| 23-30 April | Expert Committee on the International Pharmacopoeia tenth session Geneva

Preparation of monographs and appendices for volume II of the International Pharmacopoeia |
| 1-2 May | Expert Committee on the International Pharmacopoeia Subcommittee on Non Proprietary Names fourth session Geneva |
| 5-24 May | Fifth World Health Assembly Geneva |
| 29 May-7 June | Executive Board tenth session Geneva |

Board after thoroughly examining the legal financial and administrative aspects of a change from annual to biennial assemblies expressed no opinion as to the desirability of making such a change but confined its recommendations to (1) the amendments to the Constitution which would be required if the Fifth World Health Assembly should decide to have biennial assemblies and (2) the administrative arrangements which this change would entail

Publications programme

With regard to the WHO publications programme the Board noted the considerable progress made by the Director General in implementing the publishing policies laid down by the Third World Health Assembly and expressed its satisfaction with the general programme of WHO publications

Certain recommendations were made concerning specific publications

1 Articles in Spanish accompanied by summaries in English and in French will in the future be accepted for publication in the *Bulletin of the World Health Organization*

2 The Director General is requested to issue periodic statements giving (a) lists of short descriptive titles for all projects in operation classified by region country and major type of activity and (b) summaries of any projects started or completed during the period covered as well as of achievements in selected projects and in other work of the Organization These statements are to appear in the *Chronicle of the World Health Organization* or are to be issued as a supplement to it the manner and frequency of publication being left to the discretion of the Director General

3 Member States are reminded of their obligations under Article 63 of the Constitution to communicate promptly to the Organization important laws and regulations pertaining to health which have been published so that these may be included in the *International Digest of Health Legislation*

The Board recognized the need for better publicity for WHO publications and recommended to the Fifth Health Assembly the use of certain sums from the Publications Revolving Fund to finance publicity and to improve sales of WHO publications

* *

A full account of the ninth session of the Executive Board has been published in No. 40 of the *Official Records of the World Health Organization*

Escherichia no increase in facilities or in the Organization's grant to the present Centre will be required

Assistance to the Blood Group Reference Laboratory of the Medical Research Council London when funds become available Extension of the services of this laboratory will enable it to function as an international blood grouping laboratory, collecting checking and distributing to national centres blood grouping sera of a minimum standard especially of the rarer blood groups

Participation by WHO in the first world conference on medical education to be held in 1953 The Board is recommending to the Fifth Health Assembly the use of \$5,000 for participation by the Organization in this conference which is proposed by the World Medical Association

A recommendation to the Fifth Health Assembly that it authorize the initiation of joint studies to be undertaken with other international agencies on the relationships between public health medical care and social security and the appointment of an expert committee to consider the problems involved in the organization of medical care in nations of different social and economic backgrounds This decision arose out of the Board's discussion on a report prepared by a WHO consultant group for consideration by the International Labour Organization in formulating its new Conventions on Social Security

Authorization of the publication of the reports of the following expert committees Insecticides (third and fourth reports) Alcoholism Subcommittee of the Expert Committee on Mental Health (second report) Environmental Sanitation (second report) Nursing (second report) International Pharmacopoeia (ninth report) and its Subcommittee on Non-Proprietary Names (third report) Maternity Care (first report) Cholera (first report) Health Statistics (third report) Public Health Administration (first report) Biological Standardization (fifth report) and Drugs Liable to Produce Addiction (third report)

Confirmation of the decision taken at its eighth session that the Fifth World Health Assembly shall be convened on 5 May 1952

Setting of 29 May 1952 as the date for the beginning of its tenth session to be held in Geneva

Special Studies

Two special subjects were studied by the Board biennial health assemblies and the WHO publications programme

Biennial health assemblies

The study of biennial health assemblies arose as a result of a proposal submitted to the Third World Health Assembly jointly by Denmark Norway, and Sweden and approved in principle by the Assembly that health assemblies be held only every two years instead of annually The

(3) to plan the establishment of laboratory activities and to work towards the standardization of serodiagnostic techniques

(4) to recommend therapy schedules convenient for the different venereal diseases under local circumstances in each particular area

(5) to stress the importance of the control of the early infectious stages of venereal disease and the prevention of congenital syphilis

(6) to recommend and initiate research activities compatible with the facilities and conditions of the area

(7) to stimulate the collection of statistical data on the incidence of venereal diseases

(8) to encourage and initiate epidemiological investigations of venereal diseases particularly of early infectious cases and to adapt case finding methods employed in other countries to the conditions of the area and to the psychology of the people

(9) to give advice on legislation concerning venereal diseases should such advice be requested by national health departments

Specifically a venereal disease-control programme was to be developed in an urban area (Simla) mass treatment was to be demonstrated in a rural area and personnel from India and other countries of South East Asia were to be trained in venereal disease control. This was to be accomplished with the aid of the WHO team composed of a venereologist (team leader) a serologist a public health nurse and a health programme specialist. The international staff was supplemented by a national team headed by Dr R. B. Tampi to whose direction the work was gradually transferred and under whom it is now being continued. budgetary commitments for this project being included in the health programme of the area for the next few years.

Team Activities

The team was able to begin operations very rapidly within one week after the arrival of the serologist three weeks after the first WHO team member had come all plans were completed and the group was actually prepared to begin clinical activities in the treatment of early syphilis. This was due partly to the fact that the WHO team leader was able to take with him by air certain equipment including a microscope penicillin and small quantities of clinical materials.

Before the programme could develop it was necessary to establish and staff a laboratory to survey the nature and extent of the problem and to select a site for field activities. While all this was in progress clinical work was begun in Simla and the surrounding area venereal-disease services were improved and expanded in the hospitals of Simla and treatment and diagnostic facilities were introduced into four district hospitals.

VENEREAL-DISEASE-CONTROL DEMONSTRATION IN INDIA

WHO Team Completes Assignment

In December 1951 the last members of WHO's first venereal disease control team left Simla, Himachal Pradesh, India, where the team had been conducting a demonstration since April 1949.¹ Although the international personnel withdrew, the work which they had begun continued without pause, carried on by Indian physicians, nurses, and serologists, many of whom had been trained by the WHO team.

Background and Objectives

This WHO project was undertaken at the request of the Government of India and upon the recommendation of the Expert Committee on Venereal Diseases. The Indian health administration, in accepting the project, made certain commitments, both on the part of its central government and on the part of the local government of the area in which the demonstration was to be undertaken. It agreed to supply matching personnel and understudies, auxiliary personnel including technical assistants, laboratory hands, sweepers, drivers, etc., laboratory and clinic facilities, and living quarters for the international staff.

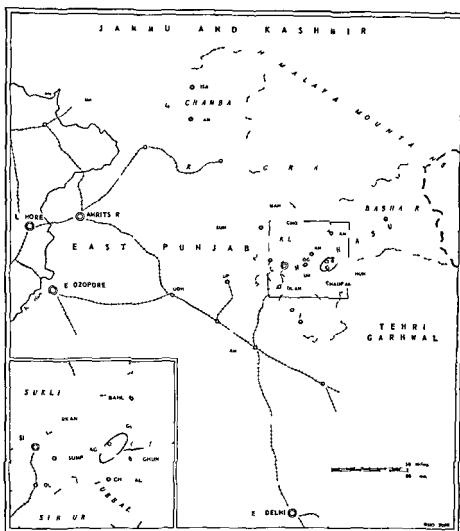
Himachal Pradesh, a province recently formed by the consolidation of 25 former hill stations, was chosen by the Indian Government as the site of team operations. This area, which is extremely mountainous and inaccessible, has a population of approximately 900,000. Prevalence of venereal disease, particularly syphilis, was believed to be high, though no adequate epidemiological studies had ever been made. As a young province and one in which the health services were in the process of formation, Himachal Pradesh provided a good milieu for what was essentially a pioneer health project.

The general objectives of the demonstration were:

(1) to develop venereal disease control along modern scientific lines and to demonstrate current methods of control at reasonable cost and with limited equipment;

(2) to give training in the diagnosis, treatment, and control of venereal diseases to local physicians, serologists, nurses, and auxiliary personnel.

FIG 2 VENEREAL DISEASE CONTROL DEMONSTRATION IN INDIA—II



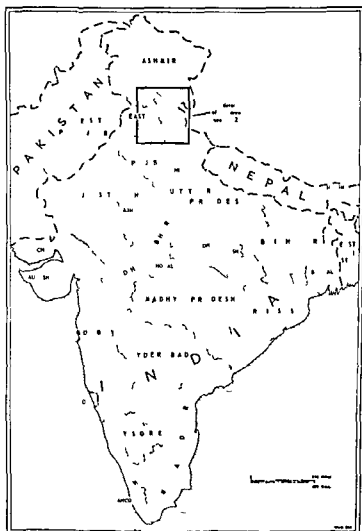
Detailed map of demonstration area

test were the most practical procedures owing to their simplicity low cost and adaptability for rapid testing under field conditions. The Kahn reaction test was also performed on numerous samples chiefly for purposes of comparison.

Concomitant with routine serodiagnostic activities the team carried on a number of special projects particularly studies comparing the various serological procedures and the antigens used in them.

of Himachal Pradesh. Within the first year, a functioning venereal disease control programme, consisting of diagnostic and treatment facilities in the largest town in each district, had been established in the province.

FIG 1. VENEREAL DISEASE CONTROL DEMONSTRATION IN INDIA-1

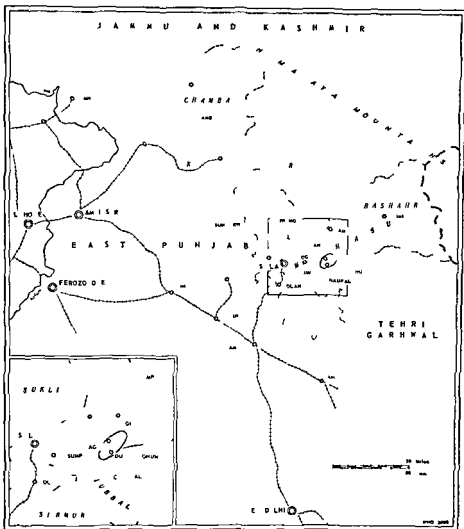


Map of India showing Himachal Pradesh

Serodiagnosis

The laboratory began its operations within four months of the team's arrival. One of its first tasks was to determine whether various sero-diagnostic procedures were applicable under local conditions. It was found that the VDRL (Venereal Disease Research Laboratory, Chumbley, Gt. USA) slide test with cardiolipin antigen and the Meinicke slide

FIG 2 VENEREAL DISEASE CONTROL DEMONSTRATION IN INDIA-II



Detail d map of demonst at on a ea

test were the most practical procedures owing to their simplicity low cost and adaptability for rapid testing under field conditions. The Kahn reaction test was also performed on numerous samples chiefly for purposes of comparison.

Concomitant with routine serodiagnostic activities the team carried on a number of special projects particularly studies comparing the various serological procedures and the antigens used in them.

Treatment

Penicillin therapy utilizing PAM (procaine penicillin G in oil with 2% aluminium monostearate) was the method of treatment upon which the team based its clinical activities. Various therapy schedules were employed depending upon the stage of the disease and the conditions under which treatment was administered. It was found expedient to give patients with early infectious syphilis a one shot treatment consisting of 1 200 000 units of PAM in special cases and wherever possible, follow up treatment was administered on the fourth and seventh days. The epidemiological effect of 300 000 units of PAM was also studied in one area. Penicillin treatment was readily accepted by local medical personnel, who welcomed it as a simple and most effective aid to venereal disease control.

FIG 3. VENEREAL DISEASE CONTROL DEMONSTRATION IN INDIA—III



The team leader explains how penicillin treatment given three months previously has almost completely healed the syphilitic lesion on this farmer's shoulder.

FIG 4 VENEREAL DISEASE CONTROL DEMONSTRATION IN INDIA-IV



Child suffering from congenital syphilis the treatment of which was especially emphasized in the demonstration. The sign of the disease in this particular case is the frontal bossing (i.e. protuberance of forehead).

Cases of granuloma inguinale were treated with streptomycin the average dose being 20 g in five days though in special cases 30 or 40 g were prescribed. This therapy was reported to be highly satisfactory.

Nursing

WHO public health nurses and matching personnel provided by the Indian Government played an important role in the demonstration team's work. Activities of the nurses included

- (1) maintenance of clinic quarters, supplies and equipment

(2) assistance to patients and to doctors in examinations and treatments and in the collection and preparation of samples for laboratory tests

(3) epidemiological activities such as case finding (including routine collection of blood samples from patients newly admitted to local hospitals interviewing patients to trace contacts, and assisting during field surveys) and case holding (sending letters to patients urging clinical attendance and to medical officers for following up delinquent patients living outside the Simla area home visits interviews etc),

(4) health education, through interviews with patients discussions with nurses at local hospitals and other means,

(5) maintenance of records clinical and statistical, and of supply inventories

(6) training of other nurses through supervision of nursing practice and seminars,

(7) general co operation with community agencies and local medical personnel in order to promote goodwill towards the team and its work and understanding of venereal disease control activities

Health education

An active programme of health education was undertaken as part of the project. With the aid of modern propaganda techniques including the use of audiovisual equipment, an attempt was made to reduce the incidence of venereal disease and to encourage those who were infected to be treated. Speeches music films and slides were utilized in trying to reach groups at schools hospitals on field trips and in places where people might be assembled. Pamphlets were prepared and distributed and lectures and seminars were given to trainees by the health educator.

Training programme

From December 1949 to August 1951 a training programme was carried on by all the team members. Practical and theoretical courses were given to medical officers laboratory technicians nurses and auxiliary workers. A total of 27 seminars was held. During the period from June 1950 to May 1951 39 trainees received instruction. 25 physicians (16 clinicians 9 serologists) 8 technicians 5 nurses and 1 social worker. Of this number, 3 of the physicians were from outside India i.e. from Burma and Indonesia.

Field trips

Among the more arduous of the team's activities were the field visits made to outlying areas. The terrain was often mountainous and difficult and climatic conditions sometimes varied from extreme heat to extreme cold during the same trip. Transportation was by means of jeeps mule

horse bus or truck or on foot depending on the terrain and the accessibility of the location

On field surveys the team attempted to test and examine as many persons as possible to treat those found infected and where possible to institute case finding and follow up measures. Blood samples collected in such surveys were retested in the main laboratory for confirmation and comparison purposes.

Health education was particularly important on field trips. Sometimes the way was paved for the team's arrival by the distribution beforehand of specially prepared leaflets. Once the team had arrived headquarters were set up in a school, a temple enclosure or other suitable centre. Often advantage was taken of religious festivals or of fairs which would bring large groups of people together and facilitate operations. Music, recorded speeches, posters and other propaganda devices were utilized to attract attention and to persuade the people to come for examination and treatment.

Some resistance to drawing of blood samples was not uncommon. On one occasion the serologist, in an effort to counteract this attitude, set up a field laboratory unit and performed the tests before the eyes of large crowds of "sceptics" after which he discarded the samples to convince the onlookers that their blood was not used for purposes other than laboratory testing. This demonstration proved to be fairly effective.

FIG 5 VENEREAL DISEASE CONTROL DEMONSTRATION IN INDIA—V



A other victim of congenital syphilis as evidenced by his saddle nose

Research

Research activities of the team were largely of a practical type—studies on the performance and reliability of serological procedures, particularly

the VDRL and Meinicke reactions, clinical evaluations of the effectiveness of penicillin therapy, and epidemiological surveys to determine the prevalence of venereal diseases in the Simla area and in other parts of India. Of special interest were discoveries made concerning false positive serological reactions in cases of leprosy and comparisons made between the different antigens used in the various serodiagnostic procedures. Articles on these subjects will be published in a forthcoming number of the *Bulletin of the World Health Organization* in which will also appear an illustrated account of a study of syphilis in the population of a closed valley—the Ghund area—where a mass treatment project was undertaken.

Personnel

The international team included the following: Dr J. C. Cutler (USA) team leader, March 1949 to June 1950; Dr J. Amador Guevara (Costa Rica) senior adviser, December 1950 to September 1951; Dr J. Kvittingen (Norway) serologist, April 1949 to November 1951; Miss E. Rose (USA) public health nurse, October 1949 to August 1950; Miss V. Ford (USA) public health nurse, November 1950 to December 1951; and Mr J. C. McCullough (USA) health programme specialist, March 1950 to December 1951.

Reports of Expert Groups

HEALTH NEEDS AND NURSING PERSONNEL

The second session of the Expert Committee on Nursing was held in Geneva from 15 to 20 October 1951. The report of the committee will appear on 25 June 1952 as No. 49 in the *Technical Report Series*.¹

Recognizing that the role of nursing personnel in any community depends on the health needs of the people in that community and on the services available from other members of the health team, the committee tries to answer four questions:

- (1) What are the health needs of people and the methods of meeting them?
- (2) How can nursing help to meet these needs?
- (3) What principles are involved in planning a programme designed to prepare nursing personnel?
- (4) How can nursing make its maximum contribution?

Health Needs and Ways of Meeting Them

Food shelter clothing a healthy environment ability to use available resources and provision of care for the sick are recognized as universal prerequisites for healthy living The minimum level of social and economic security which is essential for their attainment has not yet been reached in many parts of the world Demonstration programmes are at present being carried out however which show how educational agricultural and health activities may be combined to meet the people's needs The committee recommends that WHO when taking part in such experiments should stress the importance of the education of women particularly in child health and family hygiene and should co operate with the United Nations Educational Scientific and Cultural Organization (UNESCO) and other specialized agencies in preparing reports on these demonstrations as a guide to other administrators of health programmes

Functions of Nursing Personnel

The life of a nurse whose share in the work of the health service varies from district to district may include such differing activities as teaching women in a rural community in Eastern Canada to improve the nutritional status of their families by the home canning of suitable foods or persuading village leaders in a rural district of India to receive and co operate with a malaria control team However her role in the health team remains fundamentally the same and assumes the following four main aspects

(1) Psychological and sociological satisfaction of the emotional needs of patients and stimulation of community movements for the social economic or educational betterment of the people

(2) Operative physical care of the sick and initiation of measures to help to prevent the development and spread of illness in the community

(3) Educational not merely instruction of voluntary workers auxiliary personnel and nursing students but even more important especially in the less developed countries health education of all with whom the nurse comes in contact

(4) Administrative and advisory development of teaching programmes and planning and organization of health services as circumstances require

Preparation of Nursing Personnel

The problem of provision of nursing personnel capable of fulfilling all these functions is an urgent one especially in the less developed areas of the world The following suggestions for meeting the problem are advanced by the committee

In planning nursing services for a community both short and long term needs must be considered It is essential first to assess what kinds of nursing

services are needed the most, what types of personnel are already trained and what resources are available to meet future expenses. The committee recommends that governments should grant funds from educational sources to schools of nursing instead of financing them from the general health services budget.

In selecting students and planning training programmes, consideration of the educational level of the people from whom the nursing personnel is to be drawn is of paramount importance. While schools of nursing should provide a training sufficiently comprehensive to fit the qualified student to fulfil all aspects of the nurse's role—not merely training in how to care for the sick but also in how to educate others in health work—curricula must be adjusted to the general stage of development of the people among whom the student lives.

As regards methods of teaching the committee urges that the education of nursing personnel should no longer be treated as a by-product of employment in hospitals or other institutions as this leads to waste and frustration. The small number of textbooks available could be increased if WHO were to provide grants to nurses for the translation of existing textbooks or the writing of new ones. Much greater use should be made of visual and tactile teaching material than hitherto. The committee recommends that Member Governments be asked by WHO to send selected teachers from schools of nursing to train at the Visual Aid Production and Training Centres now being established by UNESCO. It also recommends that WHO should help countries possessing the necessary educational institutions to provide advanced study for nursing personnel from countries having no such institutions. When personnel are being prepared for work in countries other than their own every care should be taken to create an awareness of the cultural background and sociological pattern of the countries in question.

If nursing personnel are to play their role effectively, the professional status of nurses must be legally recognized. The committee recommends that WHO study laws relative to nursing and publish examples of those which have proved successful in operation.

Maximum Contribution of Nursing

The aim of nursing personnel as members of the health team should be to establish a high level of health and well-being among all peoples. Their contribution to this end will be most effective if they are trained in relation to the functions they are to perform, are placed strategically at all levels in the health services, are incorporated in the health team with the full understanding of their position, and are fully aware of the goals and objectives of the team. They can achieve these aims only if they bring to their work the best of their knowledge and skill, and if they are given the opportunity to do so. The essence of their contribution is the

ENVIRONMENTAL-SANITATION SERVICES AND PERSONNEL

Only during the last hundred years has the paramount influence of sanitation upon the general health of a nation become recognized and in many parts of the world even such elementary measures as the provision of clean water and the sanitary disposal of wastes have not yet been introduced. The Expert Committee on Environmental Sanitation was set up to advise WHO on ways and means of improving sanitary conditions and on the kinds of specialized personnel required. At the first session of the committee in September 1949¹ the part which environmental sanitation should play in the general health programme was considered. The committee met for the second time from 15 to 20 October 1951 and after discussing the varied organizational patterns of environmental sanitation services to be found in different countries devoted the major part of its session to a detailed study of sanitation personnel requirements. The committee's report is to be published on 1 June 1952 as No. 47 in the *Technical Report Series*².

Organization of Environmental Sanitation Services

Health organizations which have developed largely in response to particular health problems as they have presented themselves vary greatly in structure. Some are organized vertically—in separate specialized organs—as in the Netherlands; others horizontally—in more generalized larger departments—as in the USA. In some countries such as France control is exercised through the central government while in others—for example the United Kingdom—the health services are largely decentralized responsibility for action resting with the local authorities.

As part of the health organization environmental sanitation services show characteristic differences in pattern. While any attempt to produce greater uniformity would be ill advised sanitary measures may be introduced more easily in underdeveloped countries if responsibility for action lies with a central authority.

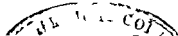
Sanitation Personnel

Activities

Not only the organization of environmental sanitation services but also the type of personnel available and the functions they are expected to

¹ World Hlth Org. A R p S 1950 10 see Iso Ch on Hlth Hlth Org 1950 4 1

² World Hlth Org. t h R p S 1951 47 21 p ges price £3 \$0.15 F f 50 Sw f 0.60



perform vary greatly from country to country. The activities of such personnel may however be divided into three main groups

(1) the design, construction, operation and maintenance of major works intended to improve the environment in the interests of health e.g. supply of water, disposal of wastes, town planning, and housing,

(2) the inspection of and preparation of reports on existing environmental conditions and the taking of measures to prevent or adjust faults which are revealed and to ensure compliance with legal provisions e.g., inspection of food establishments, investigation of nuisances,

(3) the stimulation of self help and local interest in favour of improvements in environmental conditions

Categories

While recognizing that the terminology used to describe the various types of sanitation personnel may be variously interpreted in different countries, the committee does not consider it practicable to try to suggest internationally acceptable titles. It does, however, attempt to describe the various categories of personnel which contribute either directly as sanitation specialists or less directly as members of the health team or as voluntary workers, to the improvement of sanitary conditions. The following categories are discussed

(1) sanitary (public health) engineers—specialists with full knowledge of all aspects of environmental sanitation, qualified to design and supervise the construction and operation of major sanitary works and to assume administrative duties as required

(2) plant operators—workers skilled in the operation of specific sanitary works

(3) sanitarians—divided into health inspectors—who are responsible for inspections and the settling of complaints and for the promotion of programmes of sanitary importance; health assistants who work under the supervision of the health inspector, and health aids who perform general sanitary duties in rural areas,

(4) medical officers of health—responsible by statute in most countries for the direction of health programmes including sanitation

(5) other specialists—scientists such as chemists, entomologists and veterinarians whose skills contribute to sanitation works

(6) industrial hygiene personnel—factory welfare officers, inspectors etc. responsible either directly or indirectly for the day to day maintenance of adequate environmental conditions

(7) personnel engaged in personal health services—general practitioners, nurses and midwives who by their personal contacts may stimulate popular interest in sanitary improvements

(8) public health nurses and health visitors whose contacts provide unique opportunities for encouraging sound sanitary practice in the home

(9) voluntary leaders e.g. village schoolmasters whose help is invaluable particularly in underdeveloped areas in encouraging the people to make the best use of available sanitation services and in stimulating self help

Education and training

The education and training required by the various categories of sanitation personnel are also considered. For the sanitary engineer the committee emphasizes the importance of experience in the field organized perhaps on a regional basis to complement the normal undergraduate engineering course followed by one year's postgraduate training recommended by the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel³. The training of plant operators may take only a few months depending on the type of plant: the establishment of training courses should be encouraged especially in the underdeveloped areas where such personnel are scarce. The health inspector's training consisting largely of practical demonstrations should enable him to become the "general practitioner" of environmental sanitation. The health assistant should receive similar instruction but at a less specialized level and the health aid elementary instruction in sanitary work as applied to rural areas. The medical officer of health must be taught a greater realization of the importance of environmental sanitation to general health. In training industrial hygiene personnel increasing attention should be given to the control of the environment of workers in small workshops or in agriculture and to the effects of industry on the environment outside the factory as well as inside. The award of fellowships to senior personnel should be encouraged and in service training should be provided to keep workers up to date with recent advances. In teaching voluntary workers the importance of personal hygiene and of maternal and child care should be emphasized and information on elementary sanitary works such as rural latrines provided.

Training centres

The committee suggests the development of three types of training centres: (1) postgraduate training institutions for sanitary engineers and medical officers of health: a small number of well equipped regional centres offering field training facilities would be preferable to a large number of poorly equipped local centres; (2) training centres for inspection duties: urban centres for the training of factory inspectors industrial hygiene personnel etc. and (3) training centres for voluntary workers: rural demonstration centres.

Utilization of personnel

It is essential that sanitation personnel should make the greatest possible contribution to the promotion of health. This aim will be realized only if planning and direction are the responsibility of highly skilled specialists particularly in underdeveloped regions. If individuals are used to the fullest extent of their abilities and training and are provided with opportunities for advancement if they are free to devote themselves full time to their work and if they receive complete co-operation from their colleagues whatever their branch of activity

Review of WHO Publications

EXPERIMENTS IN BCG STANDARDIZATION

The preparation tests of virulence and tuberculogenic potency of 144 consecutive weekly lots of BCG vaccine are the subject of an article in the *Bulletin of the World Health Organization* by Dr K. Birkhaug, Principal Medical Bacteriologist of the Division of Laboratories and Research, New York State Department of Health, Albany, N.Y.¹

BCG Cultures

By weighing BCG cultures grown on Sauton's medium it was estimated that each weekly lot of 20 mg/ml vaccine (semidry weight) for transcutaneous vaccination contains about 5 mg of dry BCG organisms per ml. Each lot of 1 mg/ml vaccine (semidry weight) for intracutaneous vaccination was estimated to contain about 0.25 mg of dry BCG organisms per ml.

Efforts to improve methods of processing BCG vaccine included the replacement of Calmette's diluent by a solution composed of one part Sauton's medium without glycerol and three parts phosphate buffer solution pH 7.2. It was found that this diluent exerted little or no vitriating action on BCG during the prescribed ten day period of the vaccine's usefulness—provided the vaccine was kept at 2°–4°C—and was moreover better tolerated during the intracutaneous inoculation in man than the hypotonic diluent recommended by Calmette. Another innovation was the addition of 20 units of sodium penicillin per ml of vaccine to control contaminations with Gram positive and certain Gram negative microorganisms during repeated aspirations of vaccine from the same vial.

¹ *Publ. World Health Org.* 1964, 5, no. 7 (Article in English with summary in English and French)

Determination of the survival rate showed that approximately 90% of the BCG bacillary aggregates remained viable in three day old vaccine 30% in six week old vaccine and 2% after one year

Tuberculogenic Potency and Virulence Tests in Animals

Tests in guinea pigs to determine the tuberculogenic potency and virulence of the vaccine revealed the following

1 BCG tuberculogenic potency and virulence as determined by skin lesions in guinea pigs inoculated intracutaneously and transcutaneously with graded doses of vaccine were relatively stable

2 The average weight of guinea pigs killed three and six months after inoculation showed that the infection induced in normal animals with 10 mg of BCG vaccine (semidry weight) did not interfere essentially with the animals growth curves

3 Each lot of vaccine possessed similar allergenic potency as shown from measurements of the induration induced by a standard challenge dose of tuberculin

4 Repeated reinoculations of cultures from caseous material taken from the abscess at the inoculum site failed to show any enhanced virulence

5 A trend towards significant increments in the volume of the left deep inguinal and para iliac lymph nodes in guinea pigs inoculated with 10 mg of BCG was observed in the weekly lots of vaccine however the cultures recovered from these nodes failed consistently to produce progressive tuberculosis upon reinoculation into normal guinea pigs An experimental comparison of current subcultures with dry glucose BCG vaccine recultured after about four years may show whether or not this trend towards lymphonodular hyperplasia is a transitory phenomenon

6 The spleen liver lungs and pooled lymph nodes of BCG inoculated guinea pigs were weighed and the results converted into percentages of the animals body weight to show possible hyperplastic changes in the viscera The variations from the mean percentage for these organs were considered tolerable

Reports received from physicians who used the vaccine in more than 10 000 individuals supplied corroborative evidence regarding the activity of the various lots of vaccine in man

Tuberculogenic and Allergenic Potency of BCG in Man

The tuberculogenic and allergenic potency of BCG in man was assessed on the basis of more than 11 000 official records received by the Division of Tuberculosis Control New York State Department of Health giving

complete data on BCG vaccination post vaccination tuberculin control and in most instances chest x ray examinations. On the whole the same remarkable regularity in local BCG vaccination skin reactions occurred in man as was observed in the experimental animal. No valid clinical proof was received to support the contention that the vaccine is harmful to man.

STUDIES OF THE ANTIGENIC COMPOSITION OF INFLUENZA B VIRUSES

In an article in the *Bulletin of the World Health Organization*¹ A. Bozzo, Visiting Fellow at the WHO World Influenza Centre, London, reports the results of investigations on the antigenic composition of influenza B strains isolated in different countries in different years and available at the Centre. Haemagglutination inhibition tests revealed a rather homogeneous antigenic picture among 27 influenza B egg strains, all of which were antigenically distantly related to the mouse adapted Lee strain. This discovery may well have a practical application, since it indicates the advisability of incorporating in the prophylactic vaccine one of the B strains other than the Lee.

Moreover, the lack of significant antigenic differences in a fairly large number of B strains isolated in the course of different years should lead from a theoretical point of view to the conclusion that measures of immunological prophylaxis should be more successful in preventing influenza B than influenza A epidemics. The author emphasizes, however, that the findings which he reports may be subject to some error, since the haemagglutination inhibition test shows wide fluctuations depending on the use of different fowl cells and the presence of non specific haemagglutination inhibitor in the sera used in the test.

Bull. World Hlth Org. 1955, 5: 149 (Article in English with summary in English and French)

DRIED SMALLPOX VACCINES

The preparation of dried smallpox vaccine at the Institut Pasteur Bandoeng, Indonesia, is described by Dr. W. A. Collier, now Chief of the Government Bacteriological Laboratory, Paramaribo, Surinam, formerly Chief of the Smallpox Service at the Institut Pasteur Bandoeng, in an article in the *Bulletin of the World Health Organization*¹. The dried vaccine

Bull. World Hlth Org. 1955, 5: 17 (Article in French with summary in English and French)

made by Otten's method at the Institute has been used in Indonesia since 1931. The number of doses of vaccine supplied rose from 147 000 in 1931 to 801 700 in 1941 and surpassed 26 million in 1949.

In the manufacture of dried smallpox vaccine at the Institute the human variola vaccinal strain has been adapted to the ox and the buffalo. Before the second World War it was cultured by successive passages through the following animals: buffalo-rabbit-European heifer-buffalo. When economic circumstances eliminated the use of European heifers the strain was maintained exclusively in the buffalo. Contrary to previous observations by other workers it was found that culture in one species of animal led neither to decrease in the amount of vaccinal pulp produced nor to reduction in the virulence.

The process of preparing the vaccine consists of the following: the pulp collected from the buffalo is ground, dried in vacuo at laboratory temperature, pulverized in a mortar and then put into ampoules which are sealed after evacuation of air. About 20 g of dried powder are obtained from 100 g of crude pulp.

The vaccine is submitted to various tests. The absence of bacterial contaminant is checked by plate culture or by inoculation into guinea pigs. Vaccinal qualities are evaluated according to virulence as determined on the cornea of a guinea pig and according to antigenic potency as expressed by the anti-haemagglutination titre of the serum from immunized guinea pigs.

The production of Otten's dried vaccine is not more expensive than that of glycerinated vaccine. The advantages of the vaccine are that it can be prepared on a large scale, kept and transported to all parts of the world without losing its potency. Experiments have shown that this vaccine still gives an appreciable percentage of positive results after 18 years' storage.

Notes and News

Venereal Disease-Control Projects for Pakistan

WHO aid is to be given to Pakistan in the establishment of two venereal disease control centres: one at Karachi, the other at Chittagong. The Karachi centre, which is expected to be opened about August 1957, will train Pakistani doctors in modern methods of venereal disease control. The Government of Pakistan has provided clinic and laboratory facilities. WHO, under the Technical Assistance Programme, will supply the necessary equipment and a team of international personnel, including a physician, a serologist, a public health nurse and a health educator. Matching Pakistani personnel will work with the international staff and will continue the activities after the WHO team moves on to Chittagong. The centre in Chittagong, which is to begin operations in 1953, will be devoted largely to the control of venereal diseases among seafarers.

Malaria

Malaria control demonstration in the Philippines

A pilot project has been inaugurated in the Philippines with WHO technical assistance. It is hoped to protect more than 50 000 people against malaria by means of spraying with residual action insecticides within a period of 18 months. Operations have already started on the island of Mindoro.

WHO is contributing international experts, laboratory equipment and supplies, technical literature and other necessary items. The Government of the Philippines

FIG 6 MALARIA CONTROL



Entomological studies are an essential part of WHO malaria control operations. Here a worker with the Ernad team is shown searching for mosquitos.

with the assistance of the Economic Co-operation Administration (ECA) is providing sprayers, insecticides and transport.

The members of the international team are Dr G Sambasivan, malarialogist, and Dr M Bhatia, entomologist, who have recently completed a successful WHO malaria control demonstration in Thailand. It is planned that at the end of the project government teams will take over and extend the control measures.

Demonstration team completes assignment in India

Operations of the WHO malaria-control team which had been in Ernad, Malabar, Madras, India, were concluded in December 1951. The work is being continued, however, by a national team. Dr L. Mara, senior adviser for the WHO project, presented a plan of operations for future activities in the area to the authorities concerned and turned over equipment, supplies, etc. to the leader of the national team before the international personnel withdrew.

The final malariometric survey of the project showed a reduction of 57 / in the spleen rate and of 78 / in the parasite rate in the demonstration area although many parts of this area had been covered by the campaign only in 1951. In the check area on the other hand the spleen rate increased by about 20 / although the parasite rate decreased from 10 / to 5 /.

The density of *Anopheles fluviatilis* nine months after spraying in the demonstration area was found to be 0.1 per man hour in the routine catching stations as compared with 6.2 in the check area.

The cost of the campaign amounted to about Rs 0.12 (approximately \$0.16¹) per capita per year in 1951 exclusive of the expenses related to epidemiological investigations which need not be repeated in the routine maintenance of malaria control.

Technical Assistance for Finland

The Government of Finland and WHO have signed an agreement covering ten health programmes which are to be undertaken in Finland in 1952 and 1953 within the framework of the United Nations Technical Assistance Programme. WHO is to assist Finland in projects relative to the control of tuberculosis, venereal diseases and other communicable diseases, public health administration including vital and health statistics and health education. Fourteen WHO advisers will participate in these activities which will comprise improvements in sanitation, nursing care, social and occupational health, child health including nutrition and mental health. In addition 52 fellowships will be granted to health personnel from Finland.

Emergency Aid in Control of Cerebrospinal Meningitis

WHO is assisting the Ministry of Public Health of the Anglo-Egyptian Sudan in controlling an outbreak of cerebrospinal meningitis. Dr A. Macchiavello and Dr Wasfy Omar, Director of Health Services and Epidemiologist respectively of the WHO Regional Office for the Eastern Mediterranean, have gone to Khartoum to investigate the spread of this disease in the Sudan and to plan control measures. They have taken with them medical supplies and drugs to meet urgent needs. WHO has allocated \$15,000 for this emergency aid to the Anglo-Egyptian Sudan.

In the request for assistance the services of Arabic speaking doctors were also sought. The Egyptian Government has agreed to help meet this request by sending six Egyptian doctors to aid in the control measures.

Seminar on Health and Human Relations

A seminar on health and human relations sponsored by a joint committee of community agencies in co-operation with WHO and UNESCO was held at Dar El Hekma, Cairo from 9 to 14 March 1952. The chief aim of this seminar was to strengthen the relationships among the already established community agencies in order to set up an organization to co-ordinate activities in health and social hygiene. Lectures, group meetings and panel discussions on relevant subjects were attended by government officials, teachers, social workers and students. His Excellency Radi Abu Seif Radi Bey, Minister of Social Affairs and Public Health of Egypt, acted as Chairman.

Associate Membership of WHO Requested for Tunisia

The French Government has made an application on behalf of Tunisia for admission to the World Health Organization as an Associate Member. This application will be considered at the Fifth World Health Assembly which opens in Geneva on 5 May. Associate membership of WHO may be granted by the Assembly to territories which are not responsible for the conduct of their own international relations. Southern Rhodesia was admitted to the Organization as an Associate Member at the Third Health Assembly.

Views on WHO

Tribute to WHO

Under the above title the *Medical Officer* (1951: 86-245) notes the statement of Sir Andrew Davidson, chief medical officer of the Department of Health for Scotland, on the occasion of the visit to his country by 16 senior public health administrators whose study tour was sponsored by WHO.

Sir Andrew Davidson has paid tribute to the leadership of WHO in promoting international co-operation in health matters.

Forces demanding a world outlook on health are not far to seek. In the first place, the increased speed of transport means that epidemic diseases anywhere in the world are of universal and not merely local concern. Aeroplanes that can beat or almost beat the speed of sound can also beat the incubation period of most grave epidemic diseases. It is for this reason that the International Sanitary Regulations approved in May 1951 are of such importance to all nations, not the least our own.

"The trend of world population is also a matter to be examined carefully. Since the beginning of this century the world population has increased by 825 million persons (i.e. by 53 per cent.) it is now about 2,377 millions compared with 1,551 millions in 1900.¹ India and Pakistan have the largest increase from 282 millions

to 420 millions taking them together. Even in Britain the increase is nearly 13 millions in the first half of this century. Increases in population of these dimensions bring problems of proportional magnitude and complexity—housing, food and nutrition, infectious diseases, maternity and infant health, industrial health, education of medical and other health workers and so on. Again as Sir Andrew pointed out, the health organisations of the world's nations vary widely in adequacy and efficiency. Standards as well as problems differ. In most countries, but mainly the poorer ones, there is a severe shortage of trained workers. As disease knows no frontiers, we in this country, although our health services are in a state of relatively advanced development, must take note of what is happening elsewhere.

Fortunately, there is nowadays a growing appreciation that by weakening resistance, poverty, malnutrition and bad social environment facilitate the spread of disease. All these four trends, apart from others of a political nature, help us to realise that our interest in world health is as much concerned with self-protection as with altruism.

"As Sir Andrew says, WHO has played a valuable part in these developments by demonstration teams, by travelling fellowships and by providing specialist advice on strengthening health services in backward countries, their state of

knowledge and achievement have been immensely improved. A dramatic example of successful international effort occurred in the days of the Interim Commission immediately before the formal establishment of the organisation. In 1947 there was a serious outbreak of cholera in Egypt. If this had gone according to form mortality and morbidity would have been of mediaeval proportions. Emergency action was taken however by the Commission: supplies and workers were freely offered from other countries. International co-operation came to the aid of Egypt's health

administration. Within six weeks the epidemic was under control and no new cases of cholera occurred. WHO is also helping in the control of malaria in many parts of the world and combined with UNICEF and the Scandinavian Red Cross Societies it is supporting extended campaigns against tuberculosis and venereal diseases. Above all the world wide network of its information services is available for health departments in all those countries which permit free interchange of medical thought and practice across their frontiers."

**WORLD HEALTH ORGANIZATION
MONOGRAPH SERIES**

No 1

PSYCHIATRIC ASPECTS OF JUVENILE DELINQUENCY

Lucien BOIET

1951 90 pages price 5/ \$1 00 Fr fr 320 — Sw fr 4 —
Separate editions in English and in French

No 2

MATERNAL CARE AND MENTAL HEALTH

John BOWLEY

1951 179 pages price 10/ \$2 00 Fr fr 640 — Sw fr 8 —
Separate editions in English and in French

No 3

**LUTTE ANTIPALUDIQUE
PAR LES INSECTICIDES A ACTION RÉMANENTE**

E J PAMPANA

1951 72 pages price 5/ \$1 00 Fr fr 320 — Sw fr 4 —
French edition only

No 4

**EXPERIMENT IN DENTAL CARE
RESULTS OF NEW ZEALAND'S USE OF SCHOOL DENTAL NURSES**

John T FULTON

1951 87 pages price 5/ \$1 00 Fr fr 320 — Sw fr 4 —
English edition only

No 5

ATLAS OF FRAMBOESIA

Kenneth R HILL

R KODIJAT

M SARDADI

1951 52 pages price 5/ \$1 00 Fr fr 320 — Sw fr 4 —
English edition only

No 6

CARDIOLIPIN ANTIGENS

Mary C PANGBORN

F MALTANER

I N TOMPKINS

T BEECHER

B R THOMPSON

Mary Rose FLYNN

1951 54 pages price 5/ \$1 00 Fr fr 320 — Sw fr 4 —
English edition only

No 7

THE COST OF SICKNESS AND THE PRICE OF HEALTH

C E A WINSLOW

1951 106 pages price 7/6 \$1 50 Fr fr 480 — Sw fr 6 —
Separate editions in English and in French

No 8

KWASHIORKOR IN AFRICA

J F BROCK

M AUTRET

1952 78 pages price 5/ \$1 00 Fr fr 320 — Sw fr 4 —
Separate editions in English and in French



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
The work of WHO 1951 Annual report of the Director General	115

SCHEDULE OF MEETINGS

- | | |
|---------------------------|---|
| 21-26 July | Expert Committee on Infectious Hepatitis, first session Liège |
| 28 July-4 August | Expert Committee on Venereal Infections and Treponematoses, fourth session London |
| 8-13 September | Expert Committee on Influenza Geneva |
| 15-20 September | Expert Committee on Public Health Administration second session Geneva |
| 22-27 September | Expert Committee on Leprosy first session Geneva |
| 22-27 September | Expert Committee on Tuberculosis sixth session Geneva |
| 29 September
4 October | Expert Committee on Mental Health third session Geneva |
| 4-10 October | Expert Committee on Bilharziosis first session Porto Rico |

THE WORK OF WHO 1951

Annual Report of the Director-General¹

1951 WHO's third full year of activity was characterized by the gradual but unmistakable development of a world health consciousness and by a broadening of the general concept of the right to health. There seemed to be an increasing recognition of the necessity for international action not only to control epidemics but also to deal with diseases in general and with poverty and needless death occurring in any part of the world. The idea of health as essential to industrial, agricultural and general social and economic advancement gained in importance. One indication of this trend was the allocation to WHO for health work of a substantial part of the available funds of the United Nations expanded programme for technical assistance.

Activities centred upon advisory services to individual governments and certain technical services for the benefit of all countries. They included work relative to public health services, improved standards of teaching and training of health personnel, control of communicable diseases, co-ordination of research, epidemiological and statistical services, drugs and other therapeutic substances, arrangements for the provision of essential drugs and equipment, and a publications programme.

Among the important events of the year were the completion of the drafting of the International Sanitary Regulations, which are to replace the former International Sanitary Conventions, and their adoption by 64 nations at the Fourth World Health Assembly. Another noteworthy achievement was the publication of volume I of the *Pharmacopoea Internationalis* in English and in French. This, the first international pharmacopoeia, represents the culmination of efforts of experts from many countries to reach an international agreement on standards, strengths and nomenclature of drugs.

Guidance of a technical nature continued to be given by groups of experts in their respective fields. During 1951 there were 18 meetings of such experts, including several in conjunction with other agencies. Reports were issued by these groups on the subjects of nutrition, insecticides, malaria, health statistics, environmental sanitation, alcoholism, nursing, the international pharmacopoeia, maternity care, cholera, public health administration, and biological standardization.

The process of decentralization within the Organization made progress early in the year, the Regional Office for the Western Pacific was established

OFFICE OF THE DIRECTOR-GENERAL, 1952, 38 P. Published in English and in French. Price 9 \$1.25 Sw. f. 3.-

in Manila, and in September a regional organization for Europe came into being and arrangements were made for setting up a regional office for Africa. With these additions, the six regional offices envisaged by the First World Health Assembly became a reality.

Membership was increased to 79 with the admission of the Federal Republic of Germany, Japan, Panama and Spain. Non active members continued to benefit from Organizational aid through advice and approval given by WHO to the United Nations Children's Emergency Fund (UNICEF) projects.

As in previous years co operation with the United Nations and its specialized agencies played a significant role in WHO's activities. UNICEF gave financial aid in many of the projects in which WHO provided technical services. The United Nations technical assistance programme formed the basis of a large proportion of WHO's plans and projects and joint efforts called for close collaboration with the Food and Agriculture Organization (FAO), the United Nations Korean Reconstruction Agency (UNKRA), the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWAPRNE) and the United Nations Educational Scientific and Cultural Organization (UNESCO). In addition WHO's role as a co ordinator in international health work increased to meet the needs of programmes financed by bilateral or extra United Nations technical assistance activities undertaken by the USA and the British Commonwealth.

Public Health Services

There was considerable expansion of WHO's work in assisting countries to strengthen their public health services. This assistance was principally in public health administration, maternal and child health, environmental sanitation, mental health, social and occupational health, nutrition, health education of the public, and nursing.

Public health administration

Twenty seven countries asked for WHO aid in general programmes of public health administration. This aid took the form of

Initiation of rural health demonstration areas in Ceylon, Egypt and El Salvador. These projects will attempt to show how adequate health services can raise the standard of living as well as of health of the people in the demonstration areas.

Missions to Iraq and Ceylon sponsored by the International Bank for Reconstruction and Development. WHO consultants helped to survey the health needs of these countries in preparation for programmes for economic development.

FIG 1 MATERNAL AND CHILD HEALTH — I



Student nurses teaching the husband whose wife is blind how to care for the baby

Co operation in a survey of the health and economic needs of Somalia undertaken by the United Nations

Expert advice by visiting WHO consultants to Afghanistan Burma Iran Laos Lebanon Liberia and Viet Nam

Sponsorship of a travelling study group of senior health officers from European countries who during a six week tour observed public-health administration and practice in Belgium Sweden and the United Kingdom

Maternal and child health

A major part of WHO's activities in maternal and child health was undertaken in co operation with UNICEF By the end of the year joint demonstration and training projects were under way in 16 countries In

Europe, special programmes in which a number of countries participated, were devoted to the care of premature infants and to the rehabilitation of physically handicapped children

Other highlights in WHO's 1951 maternal and child health programme were

Continued aid by WHO and UNICEF in constructing, equipping and organizing a children's hospital at La Paz Bolivia

Assistance in most cases in collaboration with UNICEF in establishing maternal and child health centres in Brazil, India and the Philippines and in improving maternal and child health services and providing training for local personnel in Burma, Chile, Colombia, Ecuador, El Salvador, Indonesia, Malaya, North Borneo, Pakistan, Paraguay, Sarawak, Thailand, and Yugoslavia

Study with UNICEF of infant diarrhoea and milk hygiene in Finland

FIG 2 MATERNAL AND CHILD HEALTH — II



A mother watches her child being examined at the UNICEF/WHO rural demonstration and training centre at Quezon City, Philippines

FIG 3 MATERNAL AND CHILD HEALTH — III



At the Irwin Hospital, New Delhi, nurses trained by a WHO paediatric team supervise constructive play in open air

Immunization campaigns (WHO/UNICEF) against diphtheria and pertussis in Chile, Colombia and the Philippines

Many maternal and child health activities were carried out in conjunction with projects for the control of communicable diseases, such as malaria or the treponematoses. WHO public health nurses attached to demonstration teams undertook additional work with mothers and children and gave training courses in maternal and child care.

Environmental sanitation

Environmental sanitation received increasing emphasis in 1951 and sanitation personnel was used in a variety of projects in which WHO assisted. Specifically, WHO

sent a sanitary engineer to Liberia to train local sanitation workers and to help set up a national programme in environmental sanitation.

Europe special programmes in which a number of countries participated, were devoted to the care of premature infants and to the rehabilitation of physically handicapped children

Other highlights in WHO's 1951 maternal and child health programme were

Continued aid by WHO and UNICEF in constructing equipment and organizing a children's hospital at La Paz, Bolivia

Assistance, in most cases in collaboration with UNICEF, in establishing maternal and child health centres in Brazil, India and the Philippines and in improving maternal and child health services and providing training for local personnel in Burma, Chile, Colombia, Ecuador, El Salvador, Indonesia, Malaya, North Borneo, Pakistan, Paraguay, Sarawak, Thailand and Yugoslavia

Study with UNICEF of infant diarrhoea and milk hygiene in Finland

FIG 2 MATERNAL AND CHILD HEALTH — II



A mother watches her child being examined at the UNICEF/WHO rural demonstration and training centre at Quezon City, Philippines

attached sanitary engineers to a malaria demonstration team in Afghanistan and to a maternal and child health project in Thailand provided the services of a sanitary engineer to make a survey of cholera in East Pakistan and to aid the Government in drawing up a plan of operations for sanitary improvements as a means of controlling this disease

Mental health

Short term consultants were the principal agents in WHO's aid to countries in dealing with mental health problems. Surveys were made and/or advice given in Egypt India Iraq Thailand Trinidad and Yugoslavia. Medical literature periodicals and teaching films on mental hygiene were supplied to Austria to which assistance was also given with UNICEF in developing a programme for the prevention of juvenile epilepsy.

There were several inter country projects worthy of note in Europe the first European seminar on alcoholism was held under the sponsorship of the Government of Denmark the United Nations and WHO the Organization participated in a United Nations group training seminar on the medico socio psychological examination of offenders and a WHO expert lectured and conducted group discussions on mental health in Denmark Finland France Germany Norway Sweden and the United Kingdom.

Social and occupational health

During the year WHO co operated with other organizations—particularly the International Labour Organization (ILO)—on problems of occupational health and helped to strengthen the services of governments responsible for the medical aspects of rehabilitation health services for seafarers the organization of medical care the medical aspects of social security hospital planning and administration chronic diseases problems of the aged medical social services and related activities.

Nutrition

Alone or in collaboration with FAO WHO engaged in an number of activities concerned with nutrition including studies or surveys of kwashiorkor the nutritional status of the people in various countries endemic goitre and infant feeding. Assistance to individual countries or regions comprised

Aid to the Institute of Nutrition of Central America and Panama located in Guatemala so that it may become a training centre for the Region for the Americas.

carried out in co operation with UNICEF, extensive insect-control campaigns in British Honduras Costa Rica El Salvador Guatemala Honduras and Nicaragua and planned similar projects in Cuba and the Dominican Republic,

made preliminary surveys in preparation for aiding in the establishment with UNICEF assistance of DDT production plants in Ceylon Egypt India and Pakistan

gave advice on sanitary services in Haiti and on sanitation problems and the advanced training of sanitary engineers in Greece

assisted in improving facilities at a training centre in the control of insect borne diseases in Ceylon

FIG 4 MATERNAL AND CHILD HEALTH — IV



A WHO paediatric nurse teaching local nurses in the children's ward at the Irwin Hospital

projects in Bolivia Ceylon Costa Rica Haiti and Mexico Expert advisers in health education also visited Hong Kong Iraq and Nicaragua In Afghanistan a health education course was begun in conjunction with the activities of a malaria control demonstration team

The increasing importance which the Organization is attaching to health education of the public was indicated by the appointment of full time regional advisers in three of the regions and by the inclusion of a health educator in many of the demonstration teams

Nursing

By the end of 1951 WHO had 74 nurses working in field programmes In addition assistance had been given to numerous countries in the training of nursing personnel—to Afghanistan Brunei (with UNICEF) Burma Ceylon (with UNICEF) Costa Rica India Lebanon Malaya (with UNICEF) and Syria A WHO consultant on nursing visited Denmark Finland Ireland and Norway Films to aid in teaching nurses were supplied to Monaco

FIG 6 NUTRITION — II



A WHO nurse giving Ictami tablets to a village woman for the child who is suffering from glossitis

FIG 5 NUTRITION — I



A father brings his daughter for examination by the WHO medical officer at Magdalena Guatemala

Continued support in a project for the further development of the Nutrition Institute at Zagreb Yugoslavia

Surveys of the nutritional status of the people of Iraq Lebanon, and Syria by a WHO consultant

Provision of the services of a hospital dietitian to make a survey and to train personnel in Ceylon and of a medical nutritionist and a biochemist for aid in continuing and extending the activities of the Nutrition Institute at Djakarta Indonesia

Sponsorship with FAO of a three month course in nutrition in India, of a survey preliminary to developing a nutrition programme in Thailand, and of lectures and conferences on nutrition problems in Austria

Health education of the public

WHO's services in health education of the public consisted largely of the provision of expert consultants to give advice or aid in specific projects. In co operation with UNESCO consultants helped to plan

A survey by two WHO experts of medical training facilities in Afghanistan and the provision of a professor of epidemiology and social medicine for the faculty of medicine in Kabul

An investigation of the possibilities of organizing a school of medicine in Costa Rica

Recruitment of a principal for the medical college in Trivandrum India and of a professor of pharmacology for the School of Tropical Medicine Calcutta

FIG 8 MEDICAL TEACHING MISSION TO ISRAEL — II



Dr. H. Osmond Clarke of the Orthopaedic and Accident Hospital, London, examining a child at the Home for Crippled Children in Jerusalem

Development of plans for a Scandinavian school of public health in Göteborg, Sweden

Communicable Diseases

WHO's work in aiding efforts to control communicable diseases was continued and expanded during the year. Insect-control projects were used as a means of combating a number of diseases, malaria and yellow fever in particular. BCG vaccination campaigns were carried out in a number of countries. Mass treatment techniques proved effective against the treponematoses—syphilis, bejel and yaws.

Teaching and Training

As in previous years, the fellowship programme played a major part in WHO's teaching and training activities. In addition the Organization sponsored, or participated in, numerous seminars and symposia covering subjects such as alcoholism, allergy, child health, environmental sanitation,

FIG. 7. MEDICAL TEACHING MISSION TO ISRAEL — I



Dr. John Gordon of the Harvard School of Public Health, examining a child for conjunctivitis

and public health and gave assistance in training courses in anaesthesiology, antibiotics, the management of handicapped children, malaria, statistics, tuberculosis and venereal diseases.

Aid to individual countries included

Sending a team of medical scientists for teaching and exchange of information to Iran and Israel.³

³ See Chron. World Hlth Org. 195, 6, 59.

⁴ See Chron. World Hlth Org. 195, 6, 3.

three teams in the latter country turning over the work to local personnel. A fourth project in India became a joint FAO/WHO programme to control malaria and increase food production.

Tuberculosis

During 1951 WHO and UNICEF took over and in many cases expanded BCG campaigns previously carried out by the Joint Enterprise in Ceylon, Ecuador, Egypt, India, Pakistan and the Philippines. Other projects in which UNICEF and WHO gave aid to various countries included:

The establishment of tuberculosis control and teaching centres in Burma, Ecuador, India, Pakistan and Thailand.

Control projects usually including BCG vaccination in China, El Salvador, Finland, Hong Kong, Jamaica, Malaya (BCG campaign completed), Singapore (four month BCG vaccination programme) and Yugoslavia.

Aid to Austria in establishing diagnostic laboratories and in reorganizing central dispensaries; treatment and control of tuberculous meningitis; supplies being furnished by WHO and UNICEF.

FIG. 10. MALARIA CONTROL IN INDIA



One of the spray squad members attached to the team working in Orissa, India, entering a village.

FIG 9 YAWS CONTROL IN THAILAND



Thai personnel trained by UNICEF/WHO experts are carrying out a campaign against yaws. Here they are seen in a clinic set up in the Buddhist temple at Wat Plaeng

Research activities were also important in efforts to control communicable diseases the Tuberculosis Research Office in Copenhagen the International Treponematoses Laboratory in the USA the World Influenza Centre in London and the FAO/WHO brucellosis centres in 12 countries carried on various projects and in some instances evaluated the results of field programmes

Malaria

WHO participated in 22 malaria control projects in 1951, FAO, UNICEF and the Economic Co-operation Administration (ECA) also having a share in some of them Preliminary surveys were carried out in Iraq Lebanon (with FAO) and Saudi Arabia demonstrations were begun in Burma Cambodia Indonesia and Paraguay (with UNICEF) projects were continued in Afghanistan Iran Thailand (with UNICEF) and Viet Nam and operations were completed in East Pakistan and India

in the standardization of serodiagnostic procedures In the field the Organization

began or continued control programmes in Burma (in conjunction with a maternal and child health project UNICEF also participating) Ceylon Ecuador Haiti (yaws eradication project with UNICEF continued) India Indonesia Iraq (with UNICEF) Italy (with UNICEF) the Philippines (with UNICEF) Thailand and Yugoslavia (with UNICEF)

gave expert advice to Brazil on the training of serologists and to Finland Greece and Spain on venereal disease control problems or projects

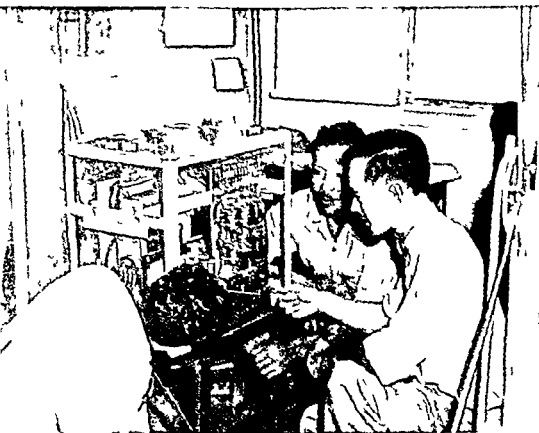
aided in the development of plans for a penicillin production plant and for a cardiolipin antigen production plant in India these to be constructed with WHO and UNICEF help and in the modernization of a

FIG 12 ANTITUBERCULOSIS CAMPAIGN IN EL SALVADOR — II



The medical director of the WHO tuberculosis project and the senior adviser participating in the campaign are seen in the foreground.

FIG 11 ANTITUBERCULOSIS CAMPAIGN IN EL SALVADOR — 1



A technical adviser of the WHO tuberculosis field team instructing local technicians in the maintenance of x ray equipment

Continuation of control programme in Greece with a WHO expert helping to further development of services emphasis being on case finding and early treatment

Assistance to Italy in programme of treatment of tuberculous meningitis and military tuberculosis

WHO also continued to aid the tuberculosis demonstration and training centre in Istanbul Turkey At the end of the year approximately 65 persons were working in WHO and WHO/UNICEF tuberculosis projects

Venereal diseases and treponematoses

Outstanding developments in WHO's programme to combat syphilis and the other treponematoses were (1) effective mass application of repository penicillin therapy (2) training of national personnel in modern diagnostic, therapeutic and epidemiological techniques and (3) advances

Rabies services of a consultant in Northern Rhodesia to study vaccine production continuation of aid to control programme in Israel advice to Spain and Venezuela

Brucellosis advice to Malaya continuation of work at FAO/WHO brucellosis centres

Bovine tuberculosis survey of incidence in Venezuela

Q fever initiation of survey of incidence to cover 23 countries

Bilharziasis continuation of surveys in Africa and in the Eastern Mediterranean Region— Hashemite Kingdom of the Jordan Iraq Israel Lebanon Saudi Arabia and Syria investigation by consultant in Egypt of value of new molluscicides in control of the disease

Leprosy surveys by a consultant in Burma and Ceylon treatment programme in Ethiopia provision of supplies for leprosy laboratory in French India

FIG 14 ANTI TYPHUS CAMPAIGN IN AFGHANISTAN



Some of the nurses who carried out the delousing campaign in Kabul and Kandahar under the supervision of WHO technical personnel

penicillin production plant in Yugoslavia—also with UNICEF participation, established a venereal disease demonstration centre at Tanta, Egypt, continued to work on special aspects of venereal disease control among merchant seamen aiding in the setting up of a model port demonstration project in Rotterdam assigned a consultant to the Government of Israel

FIG 13 ANTI VENEREAL DISEASE CAMPAIGN IN EGYPT



Anti Venereal Disease Demonstration Centre at Tanta The WHO and Egyptian public health educators explain case finding techniques to a conference of social workers

made studies of the various treponematoses at the International Treponematoses Laboratory Center and aided research on the control and standardization of cardiolipin and lecithin antigens

Other communicable diseases

Plague preparation of a manual on plague continued investigation and aid by a consultant in controlling epidemic in Saudi Arabia and Yemen

Smallpox provision of equipment for tests of dried smallpox vaccines vaccination campaigns concurrent with typhus control in Bolivia and Peru

Typhus assistance in campaigns in Afghanistan Bolivia and Peru, UNICEF aid being given in the latter two countries



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Pag
The fight against tuberculosis in Turkey	135
Successful malaria control in Thailand	140
Maternal and child health project in Pakistan	141
 Reports of Expert Groups	
Cholera	143
Public health administration	146
Health statistics	150
 Review of WHO Publications	
A historic document on the International Sanitary Regulations	153
Geographical distribution of histoplasmosis and histoplasmin sensitivity	155
Diphtheria in tropical regions	156
Problems of antivenin standardization	157
BCG vaccine studies	158
 Reports from WHO Fellows	
Audiology and the rehabilitation of deaf and dumb children	159

Filariosis three month survey by a consultant and two assistants in Thailand

Trachoma research programme in Egypt

Miscellaneous WHO/UNICEF aid in project to control mycotic diseases of the scalp in Yugoslavia assistance in work against anthrax in Turkey and against ankylostomiasis in Paraguay

Other Activities

The foregoing gives some idea of the nature and scope of the Organization's activities and accomplishments during 1951. Many other projects were still in the formative stage at the end of the year and will become realities in 1952.

In addition to the various activities mentioned WHO carried on its regular epidemiological and statistical services, continued its work relative to drugs and other therapeutic substances—biological standardization the international pharmacopoeia antibiotics and the control of drugs liable to produce addiction developed a supply service for Member States, and expanded its publications and reference services



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Pag
The fight against tuberculosis in Turkey	135
Successful malaria control in Thailand	140
Maternal and child health project in Pakistan	141
 Reports of Expert Groups	
<i>Cholera</i>	143
Public health administration	146
Health statistics	150
 Review of WHO Publications	
A historic document on the International Sanitary Regulations	153
Geographical distribution of histoplasmosis and histoplasmin sensitivity	155
Diphtheria in tropical regions	156
Problems of antivenin standardization	157
BCG vaccine studies	158
 Reports from WHO Fellows	
Audiology and the rehabilitation of deaf and-dumb children	159

SCHEDULE OF MEETINGS

- | | |
|------------------------|--|
| 21-26 July | Expert Committee on Infectious Hepatitis first session Liège |
| 28 July-4 August | Expert Committee on Venereal Infections and Treponematoses fourth session London |
| 8-13 September | Expert Committee on Influenza Geneva |
| 15-20 September | Expert Committee on Public Health Administration second session Geneva |
| 22-27 September | Expert Committee on Leprosy first session Geneva |
| 22-27 September | Expert Committee on Tuberculosis sixth session Geneva |
| 29 September-4 October | Expert Committee on Mental Health third session Geneva |
| 4-10 October | Expert Committee on Bilharziasis first session Porto Rico |

THE FIGHT AGAINST TUBERCULOSIS IN TURKEY¹

Early in its efforts to help the nations of the world to combat tuberculosis WHO recognized that one of the major problems was the lack in many countries of qualified personnel to develop and carry out the necessary programmes. At its fourth session in July 1949 the Expert Committee on Tuberculosis recommended that WHO should assist in setting up permanent centres for training basic personnel in all branches of tuberculosis work adding that so far as practicable all these specialities should be catered for in the same area which should therefore possess a dispensary a laboratory an epidemiological division with mobile x ray unit and treatment facilities.²

The first step in implementing this recommendation was the creation with WHO aid of the Istanbul Antituberculosis Training and Demonstration Centre. In the spring of 1950 a WHO advisory team went to Turkey to help organize the Centre and to begin training courses in tuberculosis control. This team had as its objectives

(1) demonstration of modern methods of control in an area where the incidence of the disease was high

(2) evaluation of the results achieved

(3) training of professional and auxiliary personnel from Turkey and in so far as possible from other countries in the Eastern Mediterranean Region in current techniques in the prevention case finding and treatment of tuberculosis

(4) general collaboration with and assistance to the Government of Turkey in its efforts to combat tuberculosis this to include (a) giving advice upon request with regard to national legislation concerning tuberculosis (b) unifying the techniques adopted by the Government in fighting the disease and (c) aiding in the establishment of tuberculosis dispensaries

Lack of adequate space in the building assigned to it at first hampered the team's work but when the need for larger quarters was pointed out the Government of Turkey and the Istanbul Antituberculosis League joined forces to sponsor the construction of a new five storey building to house the Centre. This building was officially inaugurated on 17 February 1951.³ Complete with a dark room for the x ray department a dispensary social service department epidemiological services diagnostic laboratory

¹ Derived from report *Eight months of the fight in Turkey* prepared by D. E. Berthel WHO Central Technical Committee. This report is being published by the WHO in the *Journal of the League of Nations*.
² *Wkly Bull O G t h R p S* 1949 7 6
³ *Ch Wkly Bull O G* 1951 5 60

SCHEDULE OF MEETINGS

21-26 July	Expert Committee on Infectious Hepatitis first session Liège
28 July-4 August	Expert Committee on Venereal Infections and Treponematoses fourth session London
8-13 September	Expert Committee on Influenza Geneva
15-20 September	Expert Committee on Public Health Administration second session Geneva
22-27 September	Expert Committee on Leprosy first session Geneva
22-27 September	Expert Committee on Tuberculosis sixth session Geneva
29 September-4 October	Expert Committee on Mental Health third session Geneva
4-10 October	Expert Committee on Bilharziasis first session Porto Rico

1 June 1950 to 31 October 1951 surveys were undertaken at the Centre to try to evaluate the incidence of tuberculosis among different population groups—schoolchildren university students workers prisoners inhabitants of rural areas and others. Of a total of 24 398 tuberculin tests 17 200 (70%) were found to be positive negative reactors numbering 7 198 were given BCG vaccination. The tuberculin tests showed a particularly high percentage of positive reactions among university students 91.2%.

Mass x ray surveys were also conducted. 62 197 radiological examinations were made of which 2 386 turned out to be suspect. The results indicated that of every 1 000 apparently healthy persons x rayed 50 to 60 needed control examinations and 20 to 25 were suffering from active or inactive tuberculosis requiring medical care.

Teaching Programme

Most important of the activities of the WHO advisory team at the Istanbul Antituberculosis Training and Demonstration Centre were the training courses organized for doctors nurses and auxiliary personnel. In 18 months basic instruction on medico social problems of tuberculosis was given to 430 physicians and to 460 nurses and other medical personnel.

Four courses were organized for doctors who were granted government fellowships. Each course lasted six weeks and consisted of practical instruction demonstrations lectures and seminars. Among the subjects covered by lectures—54 in each course—were the prevention and epidemiology of tuberculosis clinical and social aspects of the disease diagnosis of tuberculosis and medical and surgical treatment.

In three courses organized for nurses emphasis was placed on the role of the nurse in the antituberculosis campaign in Turkey. Lectures covered subjects such as tuberculosis as a social problem and as a problem of the individual and of

FIG. 2. ISTANBUL ANTITUBERCULOSIS CENTRE — II



M. C. Ashwin, x-ray technician, gives instructions on the positioning of a patient for mass x-ray diagnosis.

administrative offices, and library the new quarters gave added impetus to the activities which had been successfully carried on despite certain difficulties, during the nine months since the arrival of the WHO team

Epidemiological Aspects

An estimated 40,000 persons die yearly of tuberculosis in Turkey i.e. a mortality rate of about 200 deaths per 100 000 inhabitants. Some idea of the significance of this figure can be gained by comparing it with the tuberculosis mortality rate in Denmark 13 per 100 000 inhabitants. Denmark which now has the lowest death rate in the world so far as this disease is concerned, had a rate comparable with that of present day Turkey 50 years ago. This half a century handicap is sufficient evidence of the need for an active programme of tuberculosis control in Turkey.

The tuberculosis morbidity rate in Turkey is somewhat difficult to determine, owing to the small number of existing dispensaries and the consequent scarcity of epidemiological studies. During the period from

FIG 1 ISTANBUL ANTITUBERCULOSIS CENTRE — I



Dr. A. Mochi, epidemiologist at the Centre is shown measuring the extent of the reaction of a tuberculin test

In all phases of its work the Centre tries to serve as a model and a testing bench for similar centres. Demonstrations of dispensary techniques, epidemiological surveys, the organization of prophylactic measures, laboratory techniques, and modern medical and surgical treatment in pulmonary tuberculosis form a major part of the operations at the Centre.

Special contributions in demonstrating modern therapeutic techniques have been made by WHO. In November and December 1950 a Danish thoracic surgery team was sent by the Organization to Turkey. This team, under the direction of Dr E. Husfeldt, Professor of Surgery, Department of Thoracic Surgery, University of Copenhagen, also included a cardiologist, an anaesthesiologist, and a nurse. In addition to demonstrating surgical procedures, the group gave a series of lectures and, upon its departure, left part of the surgical equipment which it had brought with it, a gift from WHO to the Ministry of Health and Social Welfare of Turkey. More recently a French paediatrician, Dr E. Meyer, visited Turkey under the auspices of WHO through the United Nations technical assistance programme to demonstrate the use of antibiotics in the treatment of tuberculosis, particularly of streptomycin in the therapy of tuberculous meningitis.

Collaboration with the Government

Turkey is actively engaged in a fight against tuberculosis: a new law for the organization and functioning of an antituberculosis campaign has been drafted with WHO assistance; private leagues against tuberculosis are continuing to establish dispensaries and sanatoria and to conduct x-ray surveys and programmes in health education of the public; the Ministry of Health and Social Welfare intends to create 22 new dispensaries in 1952; a large scale BCG vaccination campaign is to be undertaken in 1952 with UNICEF and WHO aid; sanatoria facilities are being increased (the number of beds for hospitalization of tuberculosis patients was raised from 1 023 in 1948 to 4 107 in 1951 and efforts to add to this number are continuing) and with WHO advice an attempt is to be made to improve and expand social security provisions relative to tuberculous patients and their families. WHO's team at the Istanbul Antituberculosis Training and Demonstration Centre has provided new stimulus as well as technical guidance in this fight against a disease which takes a toll in Turkey unwarranted in view of the medico-social progress realized in its control in recent years.

the family and modern techniques in the campaign against tuberculosis. Practical exercises demonstrated the work of the nurse in the (a) antituberculosis dispensary (b) sanatorium, (c) home of the patient, (d) BCG vaccination centre, (e) mass x ray service, and (f) diagnostic laboratory. In addition to giving courses to nurses, the WHO advisers helped to reorganize the Tuberculosis Nurses' School of the Istanbul Anti-tuberculosis League which each year trains an average of ten nurses for special work in tuberculosis.

FIG 3 ISTANBUL ANTITUBERCULOSIS CENTRE — III



Dr E. Husfeldt demonstrates bronchoscopy during the visit of the WHO thoracic surgery team to Istanbul. Extreme left Professor Fahri Arel of Turkey, extreme right Dr E. W. Andersen, anaesthesiologist with the visiting team.

Four series of seminars were conducted by the WHO team for doctors and nurses of the antituberculosis dispensaries for those studying at the State sanitary agents' school of Istanbul (l'école des fonctionnaires sanitaires d'Etat d'Istanbul) and for Istanbul general practitioners. Efforts were made to reach the public as well: special lectures, films and expositions being arranged for various groups. Team members also visited towns other than Istanbul to give lectures and demonstrations and to help local medical personnel in their antituberculosis activities.

for the area covered dropped from 50.5 per 1 000 people in 1949 to 6.5 in 1950 and to 2.1 in 1951 while the figure is 42 per 1 000 in the control area. In the Serapee district which was sprayed in April 1950 with the usual dosage of 200 mg per square foot Alessandrini tests¹ made fifteen months after spraying showed a residue varying from 72–103 mg per square foot and that mosquitos brought into contact with the sprayed surface for fifteen minutes died within five hours.

While the high vulnerability of the vector species to DDT was an important factor in the success obtained the interest shown by the people and the enthusiastic co-operation of the young Thai malariologists who received intensive training from the team also played a decisive role.

The Thai Government has decided to take advantage of the experience gained in the demonstration project and the Ministry of Health has prepared a plan for the protection of a population of 1 400 000 in 1952 increasing to 3 500 000 in 1954 and to 5 000 000 in 1956. The former WHO/UNICEF demonstration centre will be used for the field training of medical and auxiliary personnel and as an experimental centre to study the possibility of reducing the amount of insecticides and labour needed for the malaria control campaign.

Bull. W. M. H. H. O. G. 1950 2 69

MATERNAL AND CHILD HEALTH PROJECT IN PAKISTAN

As a result of a request submitted by the Government of Pakistan for assistance to the Punjab Government in carrying out its plans for expanded maternal and child health services by training community midwives a joint WHO/UNICEF team was sent to Lahore in January 1951. In beginning its work the team had to bear in mind that students attending its courses must be trained in maternal and child health methods consistent with the economic resources of the country and in harmony with the social and cultural background of the community that the curative preventive and educational health services must be integrated and that self help was essential in village communities.

One of the first steps taken therefore was the establishment of a committee to advise on the project to co-ordinate the activities of the various institutions taking part and to give guidance to the team on the educational economic and cultural background of the country. In addition to the members of the team the committee was composed of administrative officers of the Health Directorate obstetricians and paediatricians nursing

SUCCESSFUL MALARIA CONTROL IN THAILAND

A WHO/UNICEF malaria control demonstration project was initiated in August 1949 in Chiangmai northern Thailand under the leadership of a WHO malariologist Dr G Sambasivan. His team consisted of an entomologist and auxiliary personnel, a public health nurse and a sanitarian. During the first year a population of about 40 000 was protected by DDT indoor residual spraying while in 1951 the figure reached 175 000. The entomological and malariometric data collected indicate that the project has been highly successful giving excellent results in a very short period of time. Not only has malaria transmission been interrupted but *Anopheles minimus* the vector species has to a considerable extent disappeared from the area treated.

A group of seven villages in the Nong Pong zone was sprayed in 1950 and left unsprayed in 1951, yet only one adult and one larva of *A. minimus* were caught in the entire 1951 season. At the same time morbidity figures

FIG 4 MALARIA CONTROL IN THAILAND



Dr G Sambasivan leader of the WHO/UNICEF malaria control team in Chiangmai instructs local workers in the preparation of DDT solution

The objectives of the maternal health and midwifery course are to give the student an understanding of the significance of maternal health and to fit her to give prenatal and postnatal care to the mother to undertake normal deliveries both in the hospital and in the home to carry out emergency measures and to advise the mother on her own care and that of her child. Students do a year of domiciliary and hospital training in midwifery in one of two hospitals in Lahore after they have finished their preliminary training.

Part of the course devoted to public health nursing is intended to give the student a basic knowledge of the social structure in which she will work and of the system of public health organization and administration and to provide her with the necessary knowledge and skills to give effective maternal and child health care. In all some 50 students have taken the course including 20 health visitors who attended a refresher course during the summer of 1951.

The course in paediatric nursing given in the new Mool Chand Children's Hospital lasts 8 to 10 weeks and consists of practical experience in ward duty diet study and the care of convalescent and chronically sick children.

The preparation of a national team to take over after the withdrawal of the WHO/UNICEF team was recognized as one of the most important parts of the project and one or two alternates have been appointed for each of the team's members and work in the closest co-operation with them. It is thus hoped to be able to leave behind a nucleus of professional staff capable of carrying on the work begun with such success.

Reports of Expert Groups

CHOLERA

The first session of the Expert Committee on Cholera which was held at the WHO Regional Office for South East Asia New Delhi India on 19 and 20 November 1951 continued the study of cholera problems initiated by the Joint OIHP/WHO Study Group on Cholera. On 16 and 17 November the committee met in joint session with the Cholera Advisory Committee of the Indian Council of Medical Research (formerly the Indian Research Fund Association). The committee's report was published on 25 May 1952 as No. 52 in the *Technical Report Series*¹.

superintendents and medical officers from the Punjab Health School and the Lahore Corporation. The committee's discussions covered a wide range of subjects, from the detailed problems of the project to general policies and philosophies.

One of the main questions discussed was the training curriculum for *community health visitors* the name adopted in deference to local opinion instead of community midwives. It was decided to aim at having one woman health visitor for every 10,000 people as opposed to one for 150,000 as at present. Priority is to be given to training in maternal and child health care but on the other hand the rural community's most urgent demand is for the treatment and relief of diseases and for safe delivery, therefore if the community health visitor is to make any progress in health education she must also be able to meet that demand. Since she evidently cannot give personal service to all the persons in her area, she must be able to teach and supervise others in certain aspects of the work, in midwifery for instance she will have to depend on the local *dai*¹ who has presided and will continue for many years to preside over deliveries in rural areas. If she is not devoting all her time to treating minor ailments she will have to develop in parents or in one voluntary worker in each village the necessary skills to carry out such tasks as irrigation of the eyes and treatment of scabies.

Largely on account of the high cost of training it will be necessary for many years to employ maternal and child health workers who are not trained public health nurses and midwives. The next step, however, might be to change from the present target of one health visitor for 10,000 people to one public health nurse and midwife for every 10,000 and one health visitor for every 5,000 people. But in order to achieve this a drastic reorientation of nursing education is needed. The traditional nursing schools have been unsuccessful in developing the necessary initiative, self-confidence, judgement and independence in students and have tended to make the study of ill health precede the study of health proper. In the new curriculum adopted for the project this somewhat illogical order has been reversed and it is hoped that this will have a very salutary effect.

The training course is divided into four parts: preliminary training, maternal health and midwifery, public health nursing and paediatric nursing. The aim of the preliminary training is to provide the student with basic scientific knowledge and to introduce her to nursing techniques before caring for patients in wards and to the social and economic factors influencing health. A preliminary training school equipped by UNICEF was opened in March 1951 in Lahore and 75 students were admitted during the year. The school also serves as a central preliminary training school for the four large hospitals in Lahore.

¹ An indigenous midwife with or without training.

The objectives of the maternal health and midwifery course are to give the student an understanding of the significance of maternal health and to fit her to give prenatal and postnatal care to the mother to undertake normal deliveries both in the hospital and in the home to carry out emergency measures and to advise the mother on her own care and that of her child. Students do a year of domiciliary and hospital training in midwifery in one of two hospitals in Lahore after they have finished their preliminary training.

Part of the course devoted to public health nursing is intended to give the student a basic knowledge of the social structure in which she will work and of the system of public health organization and administration and to provide her with the necessary knowledge and skills to give effective maternal and child health care. In all some 50 students have taken the course including 20 health visitors who attended a refresher course during the summer of 1951.

The course in paediatric nursing given in the new Mool Chand Children's Hospital lasts 8 to 10 weeks and consists of practical experience in ward duty, diet study and the care of convalescent and chronically sick children.

The preparation of a national team to take over after the withdrawal of the WHO/UNICEF team was recognized as one of the most important parts of the project and one or two alternates have been appointed for each of the team's members and work in the closest co-operation with them. It is thus hoped to be able to leave behind a nucleus of professional staff capable of carrying on the work begun with such success.

Reports of Expert Groups

CHOLERA

The first session of the Expert Committee on Cholera which was held at the WHO Regional Office for South East Asia, New Delhi, India, on 19 and 20 November 1951, continued the study of cholera problems initiated by the Joint OIHP/WHO Study Group on Cholera. On 16 and 17 November the committee met in joint session with the Cholera Advisory Committee of the Indian Council of Medical Research (formerly the Indian Research Fund Association). The committee's report was published on 25 May 1952 as No. 52 in the *Technical Report Series*.¹

Diagnosis

On the recommendation of the second session of the Joint OIHP/WHO Study Group on Cholera October 1948,² a comparative study of the results obtained in the laboratory diagnosis of cholera with Bandi's test and with classical techniques was carried out by the School of Tropical Medicine Calcutta India. Bandi's test as applied by Egyptian workers was found to be less reliable than cultivation on modified Wilson and Reilly and bile salt agar media. The committee therefore concludes that Bandi's test should not be recommended for use in the laboratory diagnosis of cholera. It is suggested that it would be desirable to find a method of laboratory diagnosis combining full reliability with rapidity for isolating the *Vibrio cholerae* at all stages of the infection.

At the third session of the Joint OIHP/WHO Study Group November 1949, a paper was presented by Krishnan & Dutta on the retrospective diagnosis of cholera through study of the agglutinin response following anticholera inoculation.³ Further studies since that date have shown that the usefulness of such tests is limited. The committee concludes that should work in this direction be continued an examination should be made of the possible role of cross reactions resulting from the presence of brucella or salmonella infection.

Characterization of *V. cholerae*

The complex problem of whether non agglutinable cholera vibrios can be accepted as causal agents of cholera is fully discussed. The committee concludes that the definition of the cholera vibrio in current use though incomplete is sufficient for the purposes of laboratory tests. It recommends however the desirability of further studies on the mutation of *V. cholerae* and on the antigenic structure and virulence of vibrio strains isolated on successive days from individual cholera patients.

It is recommended that future research on the immuno chemical properties of *V. cholerae* should emphasize studies on cholera endotoxin in relation to the antigenic components of the cholera vibrio and on the nature of the enzymic structure of various types of cholera and cholera like vibrios.

The Central Research Institute Kasauli India has expressed its willingness to make available to workers elsewhere its considerable collection of different vibrio strains. The establishment of a cholera research centre where cholera vibrio strains may be investigated by full time workers is strongly urged.

Dissemination of Infection

Data with regard to the presence and persistence of cholera vibrios in the stools of convalescents and contacts in particular the results of a study carried out under the auspices of the Office International d Hygiene Publique during the 1950 cholera epidemic in Calcutta are considered by the committee which concludes that the excretion of *V. cholerae* by convalescents and contacts is normally of short duration and intermittent. A systematic study of whether or not and to what extent the vibrios excreted by convalescents and carriers tend to be rough and to have an altered virulence would be desirable.

The question of the extent to which convalescent and contact carriers are disseminators of cholera infection is debated at length attention being drawn to the observations of Nicholls⁴ on carriers entering Ceylon from South India. *In the opinion of most of the committee members convalescent and contact carriers do not play a significant role* it is noted however that the observers of the 1947 cholera outbreak in Egypt disagree with this view.

The third session of the Joint OIHP/WHO Study Group on Cholera had recommended that a study be undertaken on the viability of *V. cholerae* in fish and other aquatic fauna and on the dissemination of cholera through this source. A preliminary communication on the subject by Pandit & Hora was published in 1951⁵. These authors conclude that the hilsa fish (*Hilsa ilisha*) is a likely source of cholera infection for the following reasons: the geographical location of hilsa fisheries is similar to that of the main foci of cholera endemicity in India; a correlation exists between seasonal outbreaks of cholera and the movements of the fish; and between the five yearly peaks in hilsa fishery and the periodicity of cholera in Eastern Bengal; the normal environment of the fish is suited to cholera vibrio survival; and the methods used in handling the fish would facilitate dispersal of the vibrio. The committee is not unanimously in agreement with the authors' opinions but the need for further study of the role of fish and other aquatic animals in the spread of cholera is recognized.

Control Measures

A report on environmental sanitation programmes in cholera-endemic areas is considered and it is noted that a project has been proposed for the introduction of sanitary improvements and health education in an area in East Pakistan. The importance of good sanitation as an effective method of cholera prevention and the urgent need for the initiation of sanitation programmes in both urban and rural localities are stressed.

Nicholls L (1935) *J. J. med. R.* 22: 713

Pandit C G & Hora S L (1951) *J. J. med. S. S.* 343

Statistical studies now in progress have shown that marked differences in cholera endemicity exist even between quite small adjacent districts. An exact demarcation of endemic foci would be of great assistance in the introduction of cholera control measures.

Vaccines

On the proposal of the Expert Committee on Biological Standardization comparative tests to determine the immunizing potency of cholera vaccine in mice are being made in order to establish international reference preparations of cholera vaccine. The Expert Committee on Cholera stresses the necessity of using a standard homogeneous strain of mice if the comparison is to be of value.

Recent experiments in animals with Sokhey's biologically standardized casein hydrolysate vaccine⁶ have shown most encouraging results. Large-scale field studies to test the effects of the vaccine in man are recommended.

Sokhey S S (1950) *Full World Health Org* 3:33

PUBLIC-HEALTH ADMINISTRATION

The Expert Committee on Public Health Administration was established to advise on problems involved in the development of well organized and adequately functioning public health administrations, a step of basic importance to health progress in all countries. The committee's first report, which deals in particular with the principles and practices of public health administration and experiments in local health services, is to be published as No. 55 in the *Technical Report Series*.

Functions of Health Administrations

Expanding an early definition by Professor C. E. A. Winslow,¹ the committee defines public health as follows:

Public health is the science and the art of preventing disease, prolonging life and promoting mental and physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal and community health, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birthright of health and longevity.

See Winslow C. E. A. (1933) *The evolution and significance of the modern public health campaign*. New Haven, Conn. p. 1.

From this definition it may be seen that the scope of activities of a health administration is broad and varied and should include the integration of all measures for the prevention of disease and for the care and restoration of the sick whether carried out by official or voluntary organizations or by both in combination

Responsibility for health services may however be distributed in a variety of ways. Services which affect health directly are provided by health administrations operating either independently or jointly with other bodies. Services which affect health indirectly such as those relative to social security are provided by other authorities. Even when the health administration is directly concerned the degree of its autonomy within the general governmental framework may be extensive or limited and the sphere of its activities may include all health services or only certain aspects of them. Responsibility may be apportioned among national (federal) provincial (State) and local authorities. The national health administration may be responsible for the actual operations it may only supervise the spending of its money it may enforce legal sanctions without undertaking any fiscal responsibility or it may merely promote services through education and persuasion. In Greece for example the national health department provides direct local service by maintaining health centres and hospitals in local areas. In Switzerland on the other hand the powers of the federal public health service are limited by the Federal Constitution and each of the 22 cantons has its own separate health machinery.

While these differences are inevitable the scope of responsibility of the health authority must be clearly defined in each case if health programmes are to succeed. In the committee's opinion the main functions of the central authority should be the formulation of policy the giving of advice and specialized technical assistance to local authorities and the enforcement of medical legislation and other standards of efficiency. The main functions of the local health administration should be operational.

A factor of great importance to the success of health programmes and one which is insufficiently recognized is the necessity for arousing public interest and for encouraging community participation in health measures. Health education of the public is therefore most important.

Professional and Technical Personnel

The efficiency of a health department depends to a very large extent upon its staff especially its professional and technical personnel. In both the undergraduate and the postgraduate teaching of physicians and of other professional groups engaged in health work the needs of the health service should be considered more stress being laid in the curricula on the preventive and social aspects of medicine. If physicians are to be attracted

to a health service career in preference to a career in curative medicine opportunities for a full time and more interesting service with adequate remuneration and prospects of promotion must be provided

The categories of personnel needed to carry out a comprehensive health programme are discussed by the committee. Most countries today do not possess key personnel—physicians professional nurses dentists health engineers pharmacists—in sufficient numbers to meet their needs. The shortage can be met to a considerable extent however, by the provision of auxiliary personnel.

In most countries there are not enough qualified health administrators to fill the openings available. Experiments in North America in training selected university graduates as non medical administrators have shown that such persons can relieve the medical administrator of many of his administrative duties. Auxiliary workers such as visiting nurses medical social workers and almoners can similarly relieve the physician of many of his professional duties.

The training of nurse assistants leaves registered nurses more free for supervisory and administrative work. A possible part solution to the shortage of dentists may be found in the courses for dental nurses introduced recently in New Zealand². Auxiliary sanitary staff may be trained to help the health engineer.

Other categories of personnel of value to the health programme are veterinarians health statisticians and technicians such as radiologists and laboratory assistants.

Experiments in Local Health Services

While it was impossible to consider a complete or even entirely representative sample of the local health services already functioning in various countries in the world a few illustrative examples are reviewed by the committee.

America

In Brazil the field training centre at Colatina State of Espírito Santo operated by the Serviço Especial de Saúde Pública provides an instructional public health service unit and an example of a co-ordinated hospital and health service programme. Free medical care is provided at a health centre and hospital which since 1949 have served as a field training unit for doctors nurses and health engineers. At the same time a programme of communicable-disease control and measures of improved sanitation are carried on by the staff.

² See Fulton J. T. (1951) *Experiments in dental care in New Zealand and use of school dental nurses*. Geneva (W. H. O. Health Organisation Monograph Series No. 4).

An example of how special types of health services may be devised to meet particular needs is found in the Cottage Hospital Plan which provides prepaid medical care and health service to the population scattered along the coastline of the Province of Newfoundland Canada. The provincial government gives medical care and nursing and hospital services to the inhabitants of the outports in return for a nominal annual fee per family.

In the USA the major part of individual health care has always been afforded by private physicians and institutions. The role of public authority in providing both financial backing and actual facilities and services is being gradually extended however in response to needs.

Asia

In India and Pakistan health programmes have been developed as the result of the findings of a national health survey. The long term programme to be implemented as soon as circumstances permit envisages the provision of adequate health care services for every individual regardless of ability to pay. Each province is to be divided into primary secondary and district health units which will serve a specific number of individuals be staffed by a fixed minimum number of medical and non medical personnel and provide a specific number of hospital beds. A short term programme developed on the same administrative lines but less comprehensive in scope is already being introduced.

In establishing a Health Education Service which works in conjunction with the Rural and Urban Hygiene Service the Ministry of Health of the United States of Indonesia has recognized the all important principle that every health measure taken by a government should be carried through in co operation with the people.

Europe

In Belgium decentralized health services are in general organized on a provincial basis. Each province has a health inspectorate (2 in Brabant) staffed by medically qualified health inspectors and health instructor visiting nurses a food supply inspectorate a meat inspectorate and a pharmacy inspectorate. In addition there are sea frontier and airport health services in Antwerp and Brussels.

The structure of local health administration in France is based on the administrative division of the country into departments. All health services in each department are under the direction of a medical officer who is appointed by the Ministry of Public Health and Population and is under the administrative authority of the prefect the governmental representative in each department. A full time city health officer working under the technical supervision of the departmental director of public health is

to a health service career in preference to a career in curative medicine opportunities for a full time and more interesting service, with adequate remuneration and prospects of promotion must be provided

The categories of personnel needed to carry out a comprehensive health programme are discussed by the committee. Most countries today do not possess key personnel—physicians professional nurses dentists, health engineers pharmacists—in sufficient numbers to meet their needs. The shortage can be met to a considerable extent, however by the provision of auxiliary personnel.

In most countries there are not enough qualified health administrators to fill the openings available. Experiments in North America in training selected university graduates as non medical administrators have shown that such persons can relieve the medical administrator of many of his administrative duties. Auxiliary workers such as visiting nurses medical social workers and almoners can similarly relieve the physician of many of his professional duties.

The training of nurse assistants leaves registered nurses more free for supervisory and administrative work. A possible part solution to the shortage of dentists may be found in the courses for dental nurses introduced recently in New Zealand.² Auxiliary sanitary staff may be trained to help the health engineer.

Other categories of personnel of value to the health programme are veterinarians health statisticians and technicians such as radiologists and laboratory assistants.

Experiments in Local Health Services

While it was impossible to consider a complete or even entirely representative sample of the local health services already functioning in various countries in the world a few illustrative examples are reviewed by the committee.

America

In Brazil the field training centre at Colatina State of Espirito Santo operated by the Serviço Especial de Saude Publica provides an instructional public health service unit and an example of a co-ordinated hospital and health service programme. Free medical care is provided at a health centre and hospital which since 1949 have served as a field training unit for doctors nurses and health engineers. At the same time a programme of communicable disease control and measures of improved sanitation are carried on by the staff.

² See Fulton J. T. (1951) *Experiments in dental education in New Zealand* in *Studies of school dental services*, Geneva (World Health Organization Monographs No. 4).

may serve. Next the committee presents a series of recommendations showing ways of increasing the value of statistics as a source of information on morbidity.

Many possibilities are offered by the morbidity surveys which have been or are being undertaken in a number of countries. They offer a promising method for obtaining various types of health statistics for broadening the interpretative base for morbidity data obtained by other means and for planning health services and health programmes. The carrying out of these surveys calls for the collaboration of experts in sampling theory. The extent to which the survey method can be applied in a large number of countries, particularly in underdeveloped regions, should be studied.

There are often many gaps in the notification of communicable diseases and filling in these gaps would increase the value of the relevant statistics. First the notifications must be made more complete, second the criteria on which they are based must be specified, and finally duplication of notifications must be eliminated. The value of data on communicable diseases would be enhanced if they were published weekly.

Hospital records provide fairly accurate information with regard to diagnoses, the past medical history of patients, and the results of autopsies. It would be useful if each country should adopt a uniform system of records and classification of hospital files.

Case records of private practitioners, of social security, welfare, or educational institutions, of industrial enterprises, or of the armed forces also furnish important statistical data which should not be disregarded, although the interpretation of such records is not always easy. It is difficult, for example, to estimate the influence which factors unconnected with the disease may have on the drawing up of medical certificates.

The advantages of the so-called "longitudinal studies" i.e. those involving the following of individuals or families through years of contact by physicians or by health agencies, were also considered by the committee. In its opinion this type of study would be particularly indicated for cases of chronic diseases.

Statistical Terminology

So long as there is no uniform terminology, it will always be difficult to compare national statistics. However, before establishing a definite nomenclature, it is essential that a study be made of the terms commonly used in different countries. Such a study could be entrusted to national committees on vital and health statistics, which should be guided by certain principles. The committee requests that organizations responsible for collecting and publishing morbidity data include in their publications the definitions of terms most frequently used and indicate the limitations and deficiencies of the data.

appointed in each city of 100 000 or more inhabitants. The school health service is organized and supervised by full time physicians appointed by the Ministry of National Education.

The principle that responsibility for health rests with the local authorities has been developed to such a degree in Norway as an outcome of the health act of 1860 that decisions agreed upon by the local boards of health of the municipalities cannot be overruled by the central administration.

The national health service in Scotland is composed of three main branches—hospitals, general practice and local authority services. The local health authorities are concerned mainly with the following problems: housing, environmental sanitation, industrial health, care of the aged, the partially infirm and the bedridden and the prevention and mitigation of prevalent diseases such as rheumatism and influenza.

By developing local health-care centres and "homes for health", the Yugoslav authorities have brought health care closer to the people.

Middle East

In Egypt 200 rural centres are being planned, each to serve a population of about 20 000. Each unit of 100 000 population (five centres) is to be provided with a 100 bed hospital possessing laboratory and ambulance services.

HEALTH STATISTICS

Considered in its larger sense, the idea of morbidity encompasses all those conditions which do not conform to the definition of health expressed in the Constitution of the World Health Organization. By their wide scope and importance, morbidity statistics constitute a very valuable source of information. The various types of morbidity statistics and the uses to which they are put in different countries, together with a study of some of the general problems in connexion with health statistics, are the subject of the third report of the Expert Committee on Health Statistics, which will appear soon as No. 53 in the *Technical Report Series*.¹

Improvement of Morbidity Statistics

The committee's report first gives a list of different types of morbidity statistics which can be collected, taking into account the varying stages of development of the countries concerned. This list indicates, in each case, the type of population covered and the purposes which the statistics

Report of the Subcommittee on the Registration of Cases of Cancer as well as their Statistical Presentation

An annex to the report of the Expert Committee on Health Statistics gives the second report of the Subcommittee on the Registration of Cases of Cancer as well as their Statistical Presentation. This is devoted to the statistical classification of neoplasms. The anatomical site, histological type and degree of malignity are the three factors on which classification criteria must be based. At the end of the subcommittee's report there is a new proposed classification of neoplasms according to the anatomical location of the lesion which is more detailed than the classification found in the International Statistical Classification.

Review of WHO Publications

A HISTORIC DOCUMENT ON THE INTERNATIONAL SANITARY REGULATIONS

In April 1952 the World Health Organization published a volume entitled *International Sanitary Regulations*¹. This volume in addition to giving the text of the draft *International Sanitary Regulations* and the text of the Regulations as finally adopted by the Fourth World Health Assembly includes a verbatim report of the proceedings of the Special Committee set up to consider the *International Sanitary Regulations*. It is believed that this volume of some 440 pages is of historic importance not only to those responsible in national and local administrations for the application of quarantine practice but also to medical historians.

The *International Sanitary Regulations* (WHO Regulations No. 2) are a revision and a consolidation of the texts of the numerous conventions and similar agreements still extant; they will enter into force for all Member States of the World Health Organization (and also for those non Member States who so signify) on 1 October 1952 unless a reservation accepted by the Health Assembly or a rejection has previously been made.

Just over 100 years ago in 1851 the rapid expansion of international trade and travel resulting from the advent of steam navigation and the great variety of quarantine practices led the French Government to convene in Paris the first of a long series of international conferences—conferences which had as their aim the agreement on and adoption of a uniform sanitary

International Statistical Classification of Diseases, Injuries, and Causes of Death

In order to facilitate the presentation of morbidity statistics, the committee recommends the preparation of either more condensed or more detailed lists taking the Intermediate List of the International Statistical Classification as a starting point. In addition, each country whose morbidity statistics are based on incomplete diagnoses should design "a list consisting of selected diseases distinguished in the Intermediate List of the International Statistical Classification and recognizable in the country".

The committee divides the various questions in the application of the International Statistical Classification into six categories:

- (1) activities of the WHO Centre for problems arising in the International Classification
- (2) procedure for subsequent revisions of the International Classification
- (3) proposed adaptation of the International Classification for the use of the armed forces
- (4) code of surgical, radiological and anaesthetic procedures,
- (5) other problems
- (6) definition of blindness

International Collaboration

The diversity of methods employed for the collection and analysis of morbidity data and the variations in the terminology used to define the same phenomena are obstacles to the comparability of statistics which can be overcome only by the closest possible international co-operation. National committees on vital and health statistics—whose number must be increased—are best able to ensure the continuous exchange of information among countries. The committee considers that a conference should be called in 1953 of representatives of these bodies which are becoming an increasingly powerful factor for the development of the fields of vital and health statistics.

The role of WHO consists not only of encouraging countries to collect and publish morbidity statistics but also of assisting health statistics services in the various countries by sending expert advisers, by awarding fellowships and by organizing training courses. It is also the task of WHO to ensure on the international level uniformity of terminology, co-ordination of work and exchange of information among institutions interested in statistics. WHO also collaborates with the United Nations, in particular with the Statistical Commission and with the Population Commission. Thus the committee was called upon to study a memorandum by the Secretary General of the United Nations entitled "Proposed standards for vital records and statistics".

Part I of the volume comprises the debates of the Special Committee and of its Subcommittee on the Mecca Pilgrimage together with the reports of the committee's various subcommittees and working parties. It also contains a set of resolutions on international quarantine matters adopted by the Fourth World Health Assembly on the recommendation of the Special Committee. These resolutions reflect the Health Assembly's intention of making the International Sanitary Regulations the first of a series of international regulations for the control of epidemic diseases carried by international traffic and emphasize the opinion of the experts drafting the Regulations that a community is more effectively protected against pestilential disease by its own public health service than by sheltering behind a barrier of quarantine measures.

Part II is devoted to the text of the International Sanitary Regulations accompanied by an explanatory memorandum, a table of comparison with existing international sanitary conventions, and an analytical index.

GEOGRAPHICAL DISTRIBUTION OF HISTOPLASMOSIS AND HISTOPLASMIN SENSITIVITY

Histoplasmosis was first described clinically in 1906 and in 1934 *Histoplasma capsulatum*, the causative fungus, was isolated and cultivated. For many years the disease was considered to be acute, rare, and fatal. In 1945, however, it was widely observed in certain areas in a benign and asymptomatic form, rarely diagnosed. Further investigation by x-ray examinations and by skin tests using such fungus antigens as histoplasmin showed a high correlation between pulmonary calcifications and histoplasmin sensitivity in tuberculin-negative persons. This observation strongly suggested that histoplasmosis produces—and in some areas is indeed the principal cause of—such calcifications.

In an article in the *Bulletin of the World Health Organization*¹ Dr. A. Mochi and Dr. Phyllis Q. Edwards review the verified cases of histoplasmosis and the studies on histoplasmin sensitivity found in the literature up to January 1951, report on a number of hitherto unpublished investigations of histoplasmin sensitivity conducted in various countries throughout the world, and try to give as complete a picture of the geographical distribution of histoplasmosis and histoplasmin sensitivity as is possible in the light of the incomplete data now available.

The highest levels of histoplasmin sensitivity are found in the east-central part of the USA, near the junctions of the Missouri, Mississippi, and Ohio rivers, an area in which clinical cases of histoplasmosis have been

code to govern international traffic in order to prevent the spread of pestilential disease. This first attempt in 1851 was followed by a succession of international conferences in Paris in 1859, in Constantinople in 1866, in Vienna in 1874, in Washington in 1881, and in Rome in 1885, but it was not until 1892 that, for the first time a convention dealing with the sanitary control of international traffic was approved by all the participating countries.

During the first half of the 20th century there were no fewer than 13 further conventions or agreements of a diplomatic character relating to health control measures to be taken at frontiers. Unfortunately, however, none of these conventions had ever completely superseded all its predecessors. The multiplicity of the obligations undertaken by States—some being party to certain of these diplomatic instruments but not to others—has always been a cause of trouble and confusion in international traffic.

The question of the revision of the International Sanitary Conventions and their consolidation into one text applicable to all means of transport was considered in 1946 by the Technical Preparatory Committee for the International Health Conference and the universal recognition of the need for unification of international sanitary arrangements found expression in the inclusion among the constitutional functions of the World Health Organization of that of proposing conventions and regulations and making recommendations in respect of international health matters.

In the early months of its existence, the Interim Commission of the World Health Organization established expert committees to prepare a revision of existing sanitary conventions by a study of such questions as the sanitary control of the Mecca Pilgrimage and modern advances in epidemiology and methods of disinfecting. The technical documentation thus produced was used by the Expert Committee on International Epidemiology and Quarantine in framing a set of principles to serve as a guide in the preparation of the new international sanitary regulations. After approval of these principles by the Second World Health Assembly, the expert committee with the help of its legal subcommittee, produced preliminary draft regulations which after further study of comments and suggestions from governments led to the draft to which the Special Committee gave final form with a view to its adoption by the Fourth World Health Assembly. Among the main principles which have guided the authors of the Regulations must be mentioned the search for maximum security against the international spread of disease with minimum interference with world traffic. Despite the circumstances—and many pertinent examples are quoted in the verbatim records of the Special Committee—and the difficulties encountered in reaching agreement the text was deemed to be the best possible attainable at present and was adopted unanimously on 25 May 1951 by the representatives of the 60 governments present at the Fourth World Health Assembly.

antitoxin has been found not only in domestic animals but also in the blood of various wild animals living far from man

When the indigenous populations in tropical zones are attacked by diphtheria the disease is usually in a primitive or atypical form. However if their immunity fades as it is liable to do under adverse conditions such as famine and avitaminosis diphtheria epidemics with typical clinical characteristics and a relatively high mortality may occur. Europeans who contract diphtheria in tropical regions manifest clinically a form of the disease comparable in gravity with that in temperate regions. From a prophylactic point of view this means that antidiphtheria vaccination should be given to Europeans living in contact with indigenous populations in the tropics even if the people themselves because of their latent immunity do not require vaccination

PROBLEMS OF ANTIVENIN STANDARDIZATION

A study of the neutralization of two types of snake venom is the subject of an article by Dr W. H. A. Schottler of the Instituto Butantan, São Paulo, Brazil, in a recent number of the *Bulletin of the World Health Organization*.¹ Several thousand experiments were carried out chiefly on mice on the neutralization of *Bothrops jararaca* and *Crotalus terrificus terrificus* by various concentrations of a polyvalent antiothropic and of a subspecies specific anticrotalic serum respectively.

In both in vitro experiments (contact between venom and antivenin before intravenous injection of the mixture) and in therapeutic tests (separate subcutaneous injections of venom and antivenin) the neutralization of venom by increasing antivenin concentrations did not occur in multiple proportions. Relatively less venom was neutralized by higher antivenin concentrations. There was an end point in the inactivation of the *Bothrops* venom beyond which further increase in antibody concentration was useless owing to the presence in the venom of a toxic component which is not neutralized by the antivenin. The therapeutic test gave higher titres than the in vitro assay in the case of the bothropic antivenin whereas with the crotalic antiserum the situation was reversed. Different titres were obtained in the titration of the same antivenin with venom samples of different toxicity.

The lack of multiple proportions in venom neutralization by antiserum makes direct antivenin titration impossible and leaves the indirect assay by comparison of the unknown with a standard serum as the method of choice. An international standard of each antivenin type is proposed

repeatedly observed. In Canada, histoplasmin sensitivity has been noted only in the south eastern provinces. A somewhat lower prevalence of histoplasmin reactors than is found in the USA has been reported from certain localities in Mexico, Central America, and South America.

Studies conducted outside the Americas have revealed little histoplasmin sensitivity. Practically nothing is known concerning sensitivity in Asia, except for two investigations in India, where a negligible number of reactors to histoplasmin was found. Numerous reports covering most of the countries of Europe have failed to demonstrate any sensitivity areas although single isolated cases of histoplasmosis have been diagnosed in Austria, Bulgaria, England, the Netherlands, Portugal, Spain, and Turkey. Several cases have occurred in the Union of South Africa but little is known of the rest of the African continent. Three cases have been observed in Java but no studies of histoplasmin sensitivity have yet been reported.

Evidence suggests that large rivers flowing through regions of low altitude provide appropriate environmental conditions for the development of the fungus. However, until extensive investigations have been carried out on a worldwide scale no realistic conclusions can be reached concerning histoplasmin sensitivity and naturally occurring histoplasmosis. The authors emphasize the need for comprehensive studies and give specific suggestions regarding the conduct of such studies.

DIPHTHERIA IN TROPICAL REGIONS

Professor E. Grasset, Director of the Institut d'Hygiène of the University of Geneva, has made a study of the epidemiology, immunology and prophylaxis of diphtheria in tropical regions, particularly among the indigenous populations in Africa¹. He analyses possible explanations for the fact that morbidity and mortality rates from diphtheria are considerably lower in the tropics than in temperate regions.

The findings of several workers indicate an early and progressive development of a latent antidiphtheria immunity among tropical peoples. This high degree of antidiphtheria immunity which establishes itself shortly after birth under cover of a passive immunity of maternal origin seems to be attributable largely to social conditions and to an environment favouring early and frequent contact with the diphtheria bacillus, this contact being intensified by the prevalence of diphtheria carriers in native communities.

Such epidemiological conditions do not appear to be necessarily associated with direct contact, or even with the presence of man. Diphtheria

¹ *B. H. World Hlth Org.* 1952, 5, 321 (Article in French with summary in English and French)

30 minutes to 4 hours. The vaccine was then sent to Copenhagen where it was submitted to comparative tests against the same lot of vaccine which had been stored at 2° 4°C at the Statens Seruminstitut. These tests included colony counts of the viable organisms and observation of the size of the vaccination lesions and of the post vaccination tuberculin reactions in comparable groups of children. Another batch of vaccine was exposed in Copenhagen to daylight and to direct sunlight for periods of 15 minutes to 4 hours and 5 to 60 minutes respectively following which counts of viable bacillary units were made.

The results in addition to confirming that exposure to sunlight for short periods produces an enormous decrease in the allergy producing capacity of the vaccine in the size of the vaccination lesions and in the colony counts showed that the ultimate effect of daylight was almost as marked as that of direct sunlight though slightly longer periods were required to produce the same results. Four hours exposure to daylight had almost the same effect on post vaccination allergy and vaccination lesions as exposure to direct sunlight for 30 minutes. The effect of indoor daylight was comparatively slight.

It is thought that this marked effect of daylight and sunlight on BCG vaccine may perhaps explain the variable results of vaccination which have been obtained in the past.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Audiology and the Rehabilitation of Deaf and Dumb Children

Dr. René Maspétoul, laryngologist of the Hôpitaux de Paris, has been granted a one month WHO fellowship to study audiology and the rehabilitation of deaf-and-dumb children in the USA. Notes on Dr. Maspétoul's observations follow.

Dr. Maspétoul was particularly interested in preschool training of deaf-and-dumb children and in the use of hearing aids. He visited centres for the training of the deaf in Baltimore, Md., St. Louis, Mo., and Cleveland and Northampton, Ohio.

to be specified is an antivenin which in a volume of 10 ml or 50 ml—whichever is the more potent—neutralizes, respectively, the average, or the maximum venom dose detectable by the snake species under consideration. This test should be performed as a curative experiment on larger animals injected with the amount of venom which corresponds to the injection from an actual snake bite. Further titrations of the unknown against the established standard sera can be carried out by mouse tests. The test venoms should be selected according to the highest toxicity available in sufficient quantity.

BCG-VACCINE STUDIES

In the fall of 1949 the Joint Enterprise the Statens Seruminstitut, Copenhagen and the WHO Tuberculosis Research Office undertook a series of field and laboratory studies on BCG vaccine. The results of some of these investigations are now being published in the *Bulletin of the World Health Organization*.

The third of the articles in this series is a preliminary report by Dr Lydia B. Edwards and Dr K. Tønderlund¹ on the effects of sunlight on BCG vaccine. Samples from the same batch of vaccine were exposed to sunlight for 0, 1, 4, 12 and 23 hours and were then used to vaccinate schoolchildren who had not reacted to the Mantoux test with 0.0002 mg of purified protein derivative (PPD). After nine weeks the children were retested, using the same dosage and batch of tuberculin and the vaccination lesions were examined.

The mean size of the tuberculin reactions after inoculation with the vaccine which had been exposed to sunlight for one hour was 9.6 mm as compared with 19.5 mm with the control vaccine. Inoculations with vaccine exposed for longer periods showed a further reduction in the size of the reactions.

Colony counts made at the time of using the vaccine revealed that the number of colonies per ml was reduced from 9,620,000 to 8,740 after one hour's exposure to sunlight and that no growth from undiluted vaccine occurred after exposure for either 12 or 23 hours.

In another study by Dr Edwards and Dr Inger Dragsted² the results of exposing BCG vaccine to light in Egypt are reported. Ampoules from the same batch of vaccine were subjected to outdoor daylight (sheltered from sun), indoor daylight and direct sunlight for periods varying from

¹ *Bull. World Health Org.* 1957, 5, 45 (Article in English with summary in English and French).
² *Bull. World Health Org.* 1957, 5, 333 (Article in English with summary in English and French).



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

This double number of the Chronicle gives an account of the Fourth World Health Assembly held in Geneva from 5 to 22 May 1952. The official proceedings of the Assembly including decisions and resolutions verbatim records of the plenary meetings and minutes and reports of the main committees will be published as Official Records of the World Health Organization No 42.

CONTENTS

I WORK OF THE FIFTH WORLD HEALTH ASSEMBLY	Page
Fifth World Health Assembly	165
Collaboration at the international level	166
Elections	168
Presidential address	168
Presentation of the annual report for 1951	169
Presentation of the reports of the Executive Board	170
General discussion	170
Programme and budget	172
Membership and organization	178
Technical discussions	180
Award of the Leon Bernard Foundation Prize	181
Population problems	183
Points from speeches	185
II TECHNICAL DISCUSSIONS AT THE FIFTH WORLD HEALTH ASSEMBLY	
The economic values of preventive medicine address by Dr C E A Winslow	191
Economic aspects of health address by Mr Gunnar Myrdal	203
Report of technical discussions on the methodology of health protection in local areas	219
The President of the Fifth Health Assembly	242
Fifth Health Assembly delegates and other participants	243

Hearing-aids

While in France it is commonly believed that hearing aids cannot be entrusted to infants in the USA Dr Maspétiol found children of about 3 years of age use such prostheses without difficulty. The appliances are carefully chosen and fitted and instructions in their use are given by qualified persons. A re selection of the hearing aid is made after the child has had a few years of rehabilitation and has acquired some ability to speak. About 75% of deaf children have sufficient auditory power to be able to make good use of a hearing aid even the totally deaf are fitted with hearing aids in some institutions it being felt that it is difficult to judge exactly the traces of auditory sense which a child may have and that every possible advantage should be given to him.

Rehabilitation of the deaf child

Up to the age of $3\frac{1}{4}$ to 4 years the child's training must be given in the home. A hearing aid is prescribed and the child taught to use it. Instructions are given to the mother who is usually the person responsible for the first years of training.

Ideally the next step is for the child to go to a kindergarten for deaf children where with the aid of individual or group hearing aids rehabilitation is continued and intensified. The mother attends certain of the classes so that she can help the child at home. Where kindergarten facilities are not accessible all the training devolves upon the mother who should have periodic assistance from a special instructor.

At the age of 6 the child enters a school for the deaf where group hearing aids with amplifying systems are usually employed.

Partially deaf children of normal intelligence may by the age of 7, 8 or 9 be able to attend an ordinary school and participate in the school life of normal children. Their regular classes are often supplemented by lessons in speech improvement. While these children may be one or two years behind normal children of their age so far as studies are concerned their early training and consequent ability to speak and to understand what is said makes their handicap unapparent. In at least one instance Dr Maspétiol was unable to distinguish the deaf children from their normal classmates.

In schools for the totally deaf sound amplifiers are generally used as an aid both to comprehension and to learning to speak. Lip reading is an essential part of the training of the totally deaf. These children are directed towards manual work although in some cases they may be able to enter ordinary schools and take a normal course of studies.

Dr Maspétiol stresses the fact that the remarkable results achieved in the USA in the rehabilitation of the deaf depend upon (1) early training beginning at the age of 2 to 3 years at the latest and (2) the utilization of whatever auditory sense the child may have by means of a hearing aid.

I

**WORK OF THE
FIFTH WORLD HEALTH ASSEMBLY**

SCHEDULE OF MEETINGS

- | | |
|---------------------------|--|
| 28 July 4 August | Expert Committee on Venereal Infections and Treponematoses, fourth session, London |
| 8 13 September | Expert Committee on Influenza first session Geneva |
| 15 20 September | Expert Committee on Public Health Administration second session Geneva |
| 22 27 September | Expert Committee on Leprosy first session Geneva |
| 22 27 September | Expert Committee on Tuberculosis sixth session Geneva |
| 29 September
4 October | Expert Committee on Mental Health third session Geneva |
| 4 10 October | Expert Committee on Bilharziasis first session Porto Rico |
| 13 18 October | FAO/WHO Joint Committee on Brucellosis second session Florence |
| 20 25 October | Expert Committee on Biological Standardization sixth session Geneva |

FIFTH WORLD HEALTH ASSEMBLY

The Fifth World Health Assembly opened at Geneva on 5 May 1952

In his opening address Dr L. A. Scheele, President of the Fourth World Health Assembly, drew up a balance sheet for the four years which had just elapsed—the first four years of the World Health Organization. It has now been proved that nations can work together on common problems without losing any of their national sovereignty; the various Members of WHO know how to collaborate unselfishly; the countries of the whole world realize that they must all contribute towards the improvement of health and that a permanent world organization is indispensable; most of them have faith in WHO.

Dr Scheele then referred to the rapidly swelling stream of medical discoveries which will facilitate the efforts of WHO. Very important discoveries have also been made in agriculture, leading to the hope that one day all peoples may be adequately provided with the three elements essential for normal life: food, clothing and shelter; for this is indeed the greatest problem with which scientists are confronted at the present time. But although recent discoveries may contribute in many ways to the success of WHO, the obstacles are still very numerous. Dr Scheele indicated *those which seemed to him the most formidable*: the shortage of health personnel, obsolete methods of medical training and the inadequate salaries paid to medical teachers and public health staff.

"Shortages of health personnel continue to be a major deterrent to progress throughout the world. All categories of health workers are in extremely short supply, but medically trained public health administrators head the list. The worldwide lack of trained health personnel highlights the inescapable fact that individual countries like WHO will have to assign high priorities to the development of new local training facilities and the improvement of existing ones. There must be an increase in the total output of trained medical and public health personnel.

"Many of the world's medical schools must improve their curricula and the quality of teaching. The teaching pattern of two or three decades ago, with great emphasis on lectures, has proved in my opinion obsolete. The modern school must increase the student's opportunities for practical experience. To accomplish this enrichment of the programme, a drastic decrease in didactic instruction is in order.

"Another deterrent to improvement in the quality of teaching is the very low salaries of medical teachers in many countries. Too many members of medical faculties cannot give full time and attention to the vital task of teaching because, in order to obtain an adequate income, they are obliged to carry on active private practice along with their teaching jobs. Officials of national health and education agencies must take active steps to improve salary scales in schools of medicine, public health and related professions.

"Medical schools need better textbooks and more basic texts should be written in the languages of the countries concerned. Medical school libraries should be given more attention."

health education and the right to share the cultural and scientific heritage of mankind are but complementary aspects of a single eternal right—the right to live a decent life. The very concept of health as it is defined in the WHO Constitution goes beyond mere physical health and includes mental health which also comes within the field of UNESCO. Mr Torres Bodet then enumerated some of the points where the activities of WHO and of UNESCO met.

International co operation between scientists This is one of the fundamental preoccupations of UNESCO as it is of WHO.

Child welfare The experts of WHO and of UNESCO met in September 1951 to examine problems relating to the mental health of children. Other joint conferences are being planned.

Fundamental education A campaign has been undertaken by UNESCO in which the teaching of hygiene plays a part and which has called for the collaboration of WHO.

Mr Torres Bodet's speech made it clear that the specialized agencies have a common aim—to serve the individual as a whole and to prepare him for the responsibilities which await him in a world of ever increasing possibilities.

Not long ago I was present in Florence at the celebration of the fifth centenary of the birth of Leonardo da Vinci. Going through the Notebooks of the artist who was also an anatomist, an engineer and a philosopher I found a definition of medicine which foreshadows to some extent that given in your Constitution. Medicine is the remedy applied to conflicting elements; disease is the discord of elements innate in the living body. This brief definition shows in terms of peace and war the problem of disease and health. What is true of the individual is also true of the community in which he lives. We cannot separate our efforts from this combined movement to restore and consolidate a general equilibrium. May we by close and continuous co-ordination make of the United Nations and its agencies the remedy applied to conflicting elements—that is to say an instrument for the achievement of a just and prosperous peace which would be nothing less than the health of the world.

The Secretary General of the World Meteorological Organization Mr Swoboda also observed that WHO and WMO have common problems to solve: the health of man depends largely on his environment just as the salubrity of a place depends on climatic conditions. There is a relatively new science, bioclimatology or meteorobiology which studies the influence of climate on health. WHO and WMO can collaborate in this research and in the practical application of the results already obtained.

The speech by Sir Herbert Broadley, Deputy Director General of the Food and Agriculture Organization dealt with the problems raised by increasing population. The millions protected by WHO from fatal diseases become additional millions of mouths for FAO to feed. Sir Herbert Broadley referred to the two possible solutions—family planning or increased food production. Each of these solutions, neither of which can be attained in

Dr Scheele stressed the fact that if these obstacles are not rapidly overcome WHO will have to give up the attempt to extend its technical assistance programmes, and many countries will be unable to carry out the health improvements they have in mind

Collaboration at the International Level

The first plenary meetings were devoted to the addresses given by the representatives of several international organizations the United Nations the United Nations Educational Scientific and Cultural Organization (UNESCO) the World Meteorological Organization (WMO) and the Food and Agriculture Organization (FAO) These organizations were unanimous in proclaiming their desire for co operation with WHO and in demonstrating the need for such co operation

Mr Gunnar Myrdal, Executive Secretary of the Economic Commission for Europe and representative of the Secretary General of the United Nations spoke of the outstanding position occupied by WHO in the great United Nations family and mentioned the three features which in the opinion of the Secretary General, are characteristic of WHO

The Secretary General has been deeply impressed particularly by three things First the way in which you have followed in the path broken by the Health Organization of the League of Nations and extended the work begun there both in scope and in depth By in depth I mean the undertaking of operational tasks in clearly defined regions of the world through regional offices from which field missions and services radiate In the second place WHO has pioneered in the field of technical assistance Its concepts of technical assistance and its early experience have contributed mightily to the successful development of technical assistance in other fields The third fact which impresses all of us who know your work is the constructive contribution of the World Health Organization to the progressive creation of a more rational and fruitful co operation among the various specialized agencies and the United Nations "

Mr Torres Bodet Director General of UNESCO observed that the physical interdependence of the peoples of the world is now universally recognized and that no progress worthy of the name is possible without collective international action

Whether we like it or not we live on a world scale problems of sickness ignorance and hunger call for worldwide solutions We can say where is the gate of a town the frontier of a State and what lines trace out the profile of a continent But who could show on the map where the realm of tuberculosis begins or where the empire of illiteracy ends ? Evils merge into one another Just as the proximity of a sick person is a danger to the healthy so the very existence of the ignorant and the starving is a disgrace to those who eat their fill and to those who enjoy the benefits of an education to which millions of their brethren have no access And this disgrace is not without its dangers Progress cannot be other than collective if it is not to bear within it the seeds of its own destruction

Mr Torres Bodet then referred to the San Francisco Charter and the Universal Declaration of Human Rights stressing that the right to food

SUBJECT AND NAME INDEX

- ABRIOL R 216
Abstract Archive of the Alcohol Literature
 235 237
Acta Dermato Venereologica Scandinavica
 120
 ACTH *see* Adrenocorticotrophic hormone
 Aden 67
 Adrenocorticotrophic hormone unit of
 potency 73
Aedes
aegypti 227
 resistance to insecticides 155
 Afghanistan 25 50 105 213 316 334
 enteric fevers since 1947 160
 malaria control 43 45 88 248
 maternal and child health 47 110
 typhus control 67 109
 louse borne 47
 Africa
 Equatorial *see* Equatorial Africa French
 Equatorial Africa
 poliomyelitis incidence in 1950 161
 Regional Organization for *see* Regional
 Organization for Africa
 rickettsioses human 20
 typhoid and paratyphoid fevers since 1947
 160
see also French North Africa French
 West Africa North Africa South West
 Africa Union of South Africa
 African pseudo dengue 22
 African tropical typhus 22
 Aftosa control plans in Brazil 278
 Agglutinating sera international standards
 for 74 252
 Agreement for Unification of Formulae of
 Potent Drugs 256
 AGUILAR A DE 216
 AHMED M 26
 Aircraft disinsection of 147 153
 Airports hygiene and sanitation of 182 228
 320
 Albania 114
 Alcoholics Anonymous 235
 Alcoholism
 definition of 232
 education on 235
 prevention and treatment of 231 237
 scientific information on 235
 seminar on 306 314
 Alcoholism (*continued*)
 Subcommittee of Expert Committee on
 Mental Health 112 231
 treatment
 facilities 233
 methods 234
 voluntary organizations 235
 Algeria
 enteric fevers since 1947 160
 influenza epidemic 52
 rickettsioses 22
 ALIVISATOS G 214
 ALLEN R B 288
 All India Institute of Hygiene and Public
 Health 49 317
 ALSTED G 219
 ALTARA G 132
 America
 poliomyelitis incidence in 1950 161
 typhoid and paratyphoid fevers since 1947
 160
 American College of Chest Physicians 217
 American Friends Service Committee 72
 American Red Cross 72
 Americas regional organization for 38
p Aminosalicic acid in treatment of tuber-
 culous meningitis 57
 AMRIT KAUR RAJKUMARI 177 179 193 196
 210 214
 Anaesthesiology Training Centre Copen-
 hagen 140 314
 ANDERSEN O 214 297 293
 ANDERSON G W 184 217 292 297
 Andorra
 influenza epidemic 54
 ANDRELL M 217
 ANDREWES C H 52
 Androsterone
 international standard withdrawn 251
 ANGELES M C 216
 ANGELL H D 217
 Anglo-Egyptian Sudan 67
 rickettsioses 21
 Animal diseases transmissible to man 40
 ANNECKE S 157
Annual Epidemiological and Vital Statistics
 1939 1946 169
Annual Epidemiological Report 169
Annual report on child and youth welfare 137

the immediate future had its supporters. The position was very serious and the countries of western Europe might be reduced to famine if the countries exporting foodstuffs were to consume all that they produced. It was indeed vitally important for WHO and FAO to work closely together.

The more successful you are in reaching your goal, the more difficult FAO's task becomes. The span of human life is being extended. Infant mortality has immensely fallen and thousands upon thousands of human beings are coming out of the shadow of disease, misery and incapacity into the sunshine of healthy energetic lives. But more mouths demand more food. Healthy people eat more than do the diseased and incapacitated and in a lifetime of 70 years one individual consumes much more food than does a man or woman who is doomed to die at 30, 40 or 50 and this is the measure of FAO's growing task. Some people have said—perhaps we have repeated it—that WHO's successes are FAO's greatest enemy. We must recognize that at the moment the world is just not responding to FAO's challenge. It is not producing sufficient food even to maintain for its increasing population the amount which the fewer, shorter-lived, less healthy millions had for each individual before the war.

Where birth rates continue to advance as is the case in many countries, where death rates and human mortality are being halved, where the expectation of life is gaining another five, ten, fifteen years, we cannot just sit back and let nature take its course. If we do, nature's course will be a very desperate one.

These international conferences and Assemblies are the places where we should be able to view these problems in their right perspective. Less today than ever before is it possible for individuals and nations to live for themselves alone. And that is why, Mr. Chairman, I am sure that at this important Assembly you will be soberly considering the problems which your own successes are creating.

Elections

The Hon. Juan Salcedo, Secretary of Health, Philippines, was unanimously elected President of the Fifth World Health Assembly.

The following delegates were elected as Vice Presidents:

Dr. A. Bellerive (Haiti)

Dr. J. N. Togbra (Liberia)

Dr. P. Vollenweider (Switzerland)

Dr. N. Romero (Chile) was elected Chairman of the Committee on Programme and Budget and Sir Arcot Mudaliar (India) Chairman of the Committee on Administration, Finance and Legal Matters.

Presidential Address

In his presidential address, Dr. Salcedo mentioned certain problems which, in his Region and doubtless in the others too, may jeopardize, if neglected, the success of the health programmes. In the first place, there is the publicity given by the lay press to new so-called "wonder drugs".

There has been too frequent use of the word "wonder" which, in view of the still experimental nature of some of these products, may be misleading. The consequent effect on public opinion and public health by hasty and even indiscriminate publicity is obviously harmful to populations throughout the world. As a result, inadequate treat-

- BEGG N D 312
 Behring antitoxin 242
 BERTH J 217
 Bejel 142
 control in Iraq 119
 BELEHRADEK J 218
 Belgian Congo
 kwashiorkor in 263
 poliomyelitis in 1950 161
 rickettsioses 22
 Belgium 72 213 275
 influenza epidemic 51
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 167
 smallpox mortality rate 245
 study tour 305
 typhoid fever mortality rate 239
 BELLAIGUE P DE 54
 BENDIXEN H C 127
 BENGTSON H 132
 Benzene hexachloride 88 100 277 379
 resistance to 155
 specifications for 151
 BERG C VAN DEN 35 216
 BERGAMI G 262
 BERGHOFF 219
 BERLIS N F H 213
 BERNARD I 214
 Bernard Foundation Prize 59 178 196
 BERTHET E 61
 BITLHEIM S 231 307
 BHATIA S L 25
 BHC *see* Benzene hexachloride
 BLANQUIS I 305
 BICKERT R 216
 BIETTI G B 27 276
 Bilharziasis 109 135
 in Eastern Mediterranean 70
 Egypt 70
 survey in Middle East 60
 Biological Standardization Expert Committee on *see* Expert Committee on Biological Standardization
 Biological standards 115
 Biometric Society 219
 BIRAUD Y M 54
 BLACKERBY P E 28
 BLONAY A DE 218
 BLOOD B D 132
 Blood grouping International reference laboratory 39
 Blood groups
 antisera 76
 Blood groups (*continued*)
 international standards for agglutinating sera 74 252
 BOERI E 216
 Boidé D 35 211 214
 Bolivia 213
 malaria control 87
 BORCIC B 218 267
 BORDER L H 213
 BORIS R 147
 BOSMANS F A E 213
 BOUCHER W H 217
 Boutonneuse fever in Africa 22
 BOYET L 23 27 112
 BOWERS J 16
 BOWLBY J 27 83 112
 BRADY T J 29 35 217
 BRADY T J 215
 BRAUN W 127
 BRAVO A L 213 236 238
 Brazil 213
 aftosa control 278
 endemic goitre 262
 goitre incidence 112
 influenza epidemic 52
 in 1950 1 332
 malaria control 86
 maternal and child health 110
 training course in insect control 308
 BRETEY J 74
 BRIDGES D C 219
 BRIDGMAN R F 214
 BRILLIANT N M 217 2 5
 BRISKAS S 214 238
 British Guiana malaria control 87
 British Medical Association 288
 BROCK J F 261 263
 BROCKINGTON C F 15
 BROOKS H L 275
 BRUCE CHWATT L J 3 5
 Brucellosis 313
 bovine control of 131
 Castaneda's spot test 130
 centres 109 167
 control in Europe 278
 in Israel 277
 diagnosis and treatment 129 168
 in animals 130
 humans 127
 Norway 129
 USA 129
 international action against 127
 Joint FAO/WHO Expert Panel on 40 127
 therapy 130

- Anopheles*
albimanus 154
brunnipes 327
culicifacies 154
darlingi 86 154
flaviatilis 44
funestus 86 90 325 326 327 328
gambiae 86 95 96 100 153 154 325
 326 327 328
gambiae var *melas* 327
hancocki 327
hargreavesi 327
labbranchiae 154
listeri 326
melas 154
minimus 44
moucheti moucheti 327
nini 327
pharoensis 327
punctulatus 154
rupeus 327 328
sacharovi 154
stephensi 154
sundicus 154
superpictus 45
- Anthrax 40 109 132
- Antibiotics 314
 effect on treponematoses 45
 efficacy in trachoma 27
 international standards 252
 production 114
 research and training centre Rome 109
- Antigens cardiolipin 15 108 265
 cardiolipin lecithin 265
- Antitoxins 242
- Antunes P C A 274
- Arab refugees in Eastern Mediterranean
 relief activities for 72
- ARACTINCI J 217
- Argasidae* 20
- Argentina 213
 brucellosis centre 167
 malaria control 85 86
- Arid land development of 191
- Arid zones disease hazards in 41
- Aromex 89
- Arsenical bismuth therapy of syphilis 11
- ASCOLI A 132
- Asia
 poliomyelitis incidence in 1950 163
 typhoid and paratyphoid fevers since 1947
 160
- Assistant Director General of WHO
 appointed 139
- Assist. Director Gen. of WHO (*continued*)
 biographical note on 273
- Association générale des Etudiants en
 Médecine de Paris 288
- Association of American Medical Colleges 88
- ASTRUP E M 246
- ATZENWILER L F 218
- AUJALU E J 214
- AUNG SAN D K K 184 213 292 300 314
- Aureomycin 75
 international standard 252
 therapy in brucellosis 130
 in trachoma 27
- Australia 193 213 319
 brucellosis centre 167
 flying doctors 170
 poliomyelitis in 1950 161 167
 public health nursing 170
- Austria 18 78 213 275
 poliomyelitis in 1950 167
 tuberculosis control 104 117
- AUTRET M 263
- Auxiliaries medical training and utilization
 of 300
- AYKROYD W R 218 262
- AZIM BEY M A 60
- AZIZ BEY M 147
- AZUMA R 215
- BA MAUNG 213
- Bacitracin 75
 international standard 252
- Bacterial growth inhibition of 274
- BAGGALLAY O 61
- BAIDYA R 218
- BAO T L 218
- BARKHUIS A 218
- BARREIROS J 213
- BARRETT R H 217
- Bartonello is effectiveness of insecticides in
 90
- Bisutoland
 rickettsiosis 21
- BAUDOUIN A 14
- BAUER L H 219
- BCG
 laboratory in Mexico 104
 vaccination 29 41 246 247
 campaign in South East Asia 46
 in bovine tuberculosis 134
 in Ireland 104
 mass in Czechoslovakia 18
- BCG vaccine 77
 pilot station Paris 78

- Brucellosis (*continued*)
 vaccines 131
 Brunei 113 320
 Budget proposals for 1951 35 237
 for 1952 35 195 191
 Bulgaria 105
 maternal and child health 110
 tuberculosis diagnosis and treatment 104
 Bulgarian refugees in Turkey 38
*Bulletin mensuel de l'Office International
 d'Hygiène publique* 135
Bulletin of the World Health Organization
 29 52 56 268 269 325
 BUNDOCK B 213
 BURGER G C E 216
 BURGESS R C 261 277
 BURKE G 214
 Burma 25 50 213 277 315 317 334
 maternal and child health 47 110 141
 tuberculosis campaign 246
 Burmese Red Cross 314
 BURNET E 288
 BUSTAMANTE M E 29
 BUSTAMANTE R C 216
 CABELLO O 336
 CABOT SIR D 132
 CAKARTOVA M 275
 CALDERON PUIG E 216
 CALDERWOOD H B 217
 CALLEA S 215
 CALSEYDE P J J VAN DE 213
 Cambodia 92 213 319 320
 CAMBOURNAC F J C 95 99 152 216 311
 Cameroons rickettsioses 22
 Canada 193 213
 poliomyelitis in 1950 161 162
 CANAPERIA G A 178 215 219 234
 CANDAU M G 139
 CAPPELETTI R 217
 Cardiolipin 39 73 76
 antigens 15 108 265
 preparation 266
 CARLT B N 127
 CARNEIRO V 132
 CARON P 215
 CARYALHO-DIAS A A DE 216
 Castaneda's spot test for brucellosis 130
 CASTRO E C DE 15
 Ceylon 18 25 50 109 193 213 277 317
 334
 enteric fevers since 1947 160
 goitre incidence 112 262
 leprosy consultants 58
 Ceylon (*continued*)
 malaria control 87
 maternal and child health 47
 vital and health statistics training courses
 336
 Chagas disease 90
 CHAIN E B 274
 CHANDAVIMOL P 217
 CHAN-OK 213
 CHARLES SIR J 207 217
 Child
 guidance and welfare 112
 health centre Calcutta 317
 project in Burma 141
 welfare in South East Asia 49
 legislation 137
 Children
 delinquency *see* Delinquency juvenile
 dental care in New Zealand 304
 maternal care and mental health 83
 physically handicapped 314
 psychiatric problems 314
 School Health Services Expert Committee
 on 15
 United Nations International Children's
 Emergency Fund *see* UNICEF
 Chile 109 213
 maternal and child health 110
 poliomyelitis in 1950 162
 China 319 320
 enteric fevers since 1947 160
 tuberculosis 104
 CHISHOLM G BROCK 3 29 30 191 236
 283
 Chloramphenicol 75
 international standard 252
 therapy in brucellosis 130
 in trachoma 27
 Chlordane
 resistance to 155
 specifications for 151
 Cholera 109
 international control 54 238
 studies by Indian Council of Medical
 Research 109
 vaccines 77
Chronicle of the World Health Organization
 Chinese edition 30
 CHU C M 52
 CLARK B M 217
 CLAVERO DEL CAMPO G 216 305
 CLEERE R L 217
 CLEMENTS F W 16 262
 Cleveland open tester for insecticides 151



CHRONICLE
OF
THE WORLD HEALTH
ORGANIZATION

VOLUME 5, 1951

WORLD HEALTH ORGANIZATION

PALAIS DES NATIONS

GENEVA

- Climatic fevers 22
 CLIVER F W P 217
 COCCHI C 56
 COCHRANE R G 58
 COIGNY R L 218
 Colombia 109 218
 enteric fevers since 1947 160
 goitre incidence 112 262
 maternal and child health 110
 Commission for Technical Co-operation
 in Africa South of the Sahara 95
 Commission on Narcotic Drugs 137
 Committee of Experts on Indigenous
 Labour 291
 Committee of Scientific Experts on Interna-
 tional Research Laboratories 41
 Commonwealth Foundation 288
 Complement fixation test 267
 Congolese red fever 22
 typhus 22
 Cook Islands influenza in 1950 I 332
 Copenhagen Anaesthesiology Centre 140 314
 CORBETT L 275
 Costa Rica 109 214
 enteric fevers since 1947 160
 poliomyelitis in 1950 162
 tuberculosis control 246
 COTELLESA M 215
 Council for the Co ordination of Interna-
 tional Congresses of Medical Sciences
 219 274
 COVELL SIR G 152
 CRAFOORD C 79
 CRAMAROSSA S 215
 Cuba 214
 enteric fevers since 1947 160
 Culex resistance to insecticides 155
 Cyprus 67
 enteric fevers since 1947 160
 mosquito eradication 153
 Czechoslovakia 105
 mass BCG vaccination 18
 maternal and child health 110
 tuberculin testing 18
 tuberculosis diagnosis and treatment 104
 DAENGSVANG S 217 238 314
 DALGAMOUNI M A K 28 58
 DALLING T 132
 DALRYMPLE CHAMPNEYS SIR W 127
 DAN P H 218 319
 Danish Red Cross 18
 DARLING S T 59
 Darling Foundation Prize 59
 DATNER B 13
 DAUBENTON F 311
 DAVIDIAN Z 215
 DAVIDOFF L M 275 306
 DAVIDSON SIR A 217
 DAVIDSON G 325
 DAW KHIN KYI 184 213 292 300 314
 DDT 28 87 100 149 150 277 307 329
 campaign in USA 87
 in dengue fever 89
 plague 89
 typhus 89 245
 yellow fever 89
 malaria control in South East Asia 43
 production 317
 resistance to 155
 specifications 151
 supplies 315
 Death certification 138
 DEBRÉ R 173
 DEGOS R 11
 Delinquency juvenile 110 112
 causes 23
 prevention 24
 psychiatric aspects of 23
 Dengue fever
 effectiveness of insecticides 89
 Denmark 214 275
 anaesthesiology training centre 314
 brucellosis centre 167
 dental services 272
 influenza epidemic 51
 in 1950-I 330
 poliomyelitis in 1950 166 167
 tuberculosis control course 313
 DENK W 79
 Dental
 auxiliaries training of 302
 utilization in New Zealand 304
 care for school children in New Zealand
 304
 health survey in Middle East 28
 hygiene 188
 services in Scandinavia and England 271
 DÉROBERT L E 231 306
 DEUTSCHMAN Z 0
 DEVIGNAT R 268
 DHIR S L 62
 Dieldrin resistance to 155
 Dietetics consultant compl tes Indian
 mission 61
 Dieticians hospital 50 112 261 234
 Digital
 replacement of standard 76

- Epidemiology Expert Committee on *see*
Expert Committee on International Epidemiology and Quarantine
- Epilepsy juvenile 112
- Equatorial Africa
 malaria 324
 conference 95
 control 99 152
- ERB NA BANGXANG 336
- ERIKSEN C 335
- Eritrea 67
 rickettsioses 21
- ERNBORG D R 246
- Escherichia international centre 39
- ESPAILLAT DE LA MOTA R 214
- ESSER P H 306
- Ethiopia 67 109 114 214
 leprosy consultants 58
 rickettsioses 21
 sulphathione treatment of leprosy demonstrated 28
- Europe
 influenza in 1950 1 330
 mortality during 20th century 239
 poliomyelitis incidence in 1950 166
 Regional Organization for 38 312
 special office for 113
 typhoid and paratyphoid incidence since 1947 156
- EVANG K 178 184 216 275
- EVANS A C 127
- Executive Board 36 37 38 39 41 60 77
 86 136 147 187 218
 eighth session 42 236
 election of chairman 236
 membership 238
 seventh session 35
- Expanded Programme of Technical Assistance for the Economic Development of Underdeveloped Countries 37
- Expert Committee on Biological Standardization 39 116 251
 fourth session 74
- Expert Committee on Drugs Liable to Produce Addiction 237
- Expert Committee on Health Statistics 138
- Expert Committee on Insecticides 103
 second session 147 155
 membership 147
- Expert Committee on International Epidemic Control 724
- Expert Committee on International Epidemiology and Quarantine 175 147 274 229 230 236
- Expert Committee on International Epidemiology and Quarantine (*continued*)
 third session 54
 members 54
- Expert Committee on the International Pharmacopoeia 237
- Expert Committee on Leprosy 41
- Expert Committee on Malaria 39 59 102 147
 fourth session 152
 membership 152
- Expert Committee on Mental Health 39 112 237
 Subcommittee on Alcoholism 112 231
- Expert Committee on Nursing 112
- Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel 288
- Expert Committee on Rabies 17
- Expert Committee on Rheumatism 237
- Expert Committee on School Health Services 15
- Expert Committee on Tuberculosis 18 237
- Expert Committee on Unification of Pharmacopoeias 39 256
 seventh session 115
 membership 115
- Expert Committee on Venereal Infections and Treponematoses Subcommittee on Serology and Laboratory Aspects 39
- Expert Subcommittee on Alcoholism 112 231
- Eye diseases control among Arab refugees 276
- FABINI C 217
- FAIRCHILD M 16
- FALES W T 336
- FALLET G H 219
- FANG I C 236 319
- FAO 64 103 109 112 132 135 218 276 314
- FAO/WHO brucellosis centres 167
- FARNSWORTH S F 61
- FAURE M 15
- FELKIN A E 218
- Fellows reports from 170 271
- Fellowships awarded by WHO 50 59 67 114 318 334
- FERRARI DE GASPARI P F 276
- FERRERA M J 213
- Fibrinogen 75
- Fiji Islands enteric fevers since 1947 160

- Dihydrostreptomycin 75
 international standard 252
 therapy in brucellosis 130
- DUKHUIS H J 305
- DILWALI C K 336
- Dimercaprol 75
- Diphtheria 109
 mortality figures in Europe 240
 toxoid 77
- Director General of WHO 3 28 191 236 283
 annual report 101
 receives honorary degree 30
- Disinsectization
 aircraft 147
 ships 147
- DOLS M J L 261
- DOMINGUEZ DRAGO J L 213
- Dominican Republic 214
- DOROLLE P 123 173 181 185
- DOWLING D A 178 208 213
- DOWLING M A C 325
- Drugs
 addiction definition of 232
 antimalarial 114
 control 117
 legislation on 137
 international standards and control 73 115
 Liable to Produce Addiction Expert Committee on 237
 narcotic Commission on 137
 non proprietary names 116 237
 potent unification of formulae 256
 Subcommittee on Non Proprietary Names first session 116 237
- DUBAS J 219
- DUJARRIC DE LA RIVIÈRE R 54
- DUNNAHOO G L 54
- DUREN A N 213
- DURUSAN R 127
- DUVILLARD M 219
- East Grinstead Maxillo Facial Unit 273
- Eastern Mediterranean
 nutrition 112
 Regional Organization 67
 trachoma control campaign 27
Weekly Epidemiological Bulletin on sale 30
- Economic and Social Council *see* United Nations
- Economic Commission for Asia and the Far East (ECAFE) 314
- Economic Co operation Administration (ECA) 314
- Economic development programme of technical assistance 37
- Ecuador 18 214
 goitre incidence 112 262
 malaria control 86
 poliomyelitis in 1950 162
 syphilis control 118
 treponematoses control project 105
 tuberculosis-control project 246
- Education
 Expert Committee *see* Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel of medical undergraduates 293
 medical and public health personnel 287
 professional and technical 114
- EDWARDS I 217
- Egypt 18 67 114 214 306
 dental health needs 28
 enteric fevers since 1947 160
 housefly eradication 90
 influenza in 1950 1 332
 nutrition 112 261
 public health consultant 61
 teaching of health statistics 336
 trachoma 70
 venereal disease control 119
 WHO/UNESCO fundamental education team 141
- EICHHORN A 278
- Eire *see* Ireland
- EJERCITO A 89
- El Salvador 216
 health demonstration area 90
 tuberculosis-control project 247
 training centre 104
- ELBERG S 127
- EL FAR BEY M S 214
- EL HALAWANI A 214
- Encephalitides virus equine 135
- ENCEDAL K 216
- England and Wales *see* United Kingdom
- ENGLER G 216
- ENNAIS J A F 219
- Enteric fever
 diagnostic antisera 76
 world incidence since 1947 156
- Epidemic
 diseases 181
 non quarantinable international control of 230
- Epidemiological and Vital Statistics Report* 20 156 161 330

Greece (*continued*)

- tuberculosis diagnosis and treatment 104
- nursing 105
- GREEN C de V 219
- Greenland influenza in 1950-1 332
- GREGORIC P 207 218
- GRUT A 291
- GRZEGORZEWSKI E 276 292
- Guatemala 214
 - goitre incidence 112 262
- Guinea French rickettsioses in 22
- GUNDY C H 206
- GUTHE T 240
- GUTTERIDGE J A 217

HAA J H DE 15

- HAGEN O A 247
- HAGIWARA T 215
- HAINES S 218
- Haiti 41 110 214
 - enteric fevers since 1947 160
 - health education 113
 - treponematoses control project 105
 - yaws campaign 119 142

HAKOLA L 306

- HALAWANI A 54
- HALE A 219
- HALL H T B 133
- HAMEL C 288
- HAMPSHIRE C H 255
- HANAFIAH M A 215
- HANSEN A T 78
- HANTCHEF Z S 219
- HARGREAVES G 231
- HARRIS H J 127
- HASELGROVE D C 217 225
- HASHIM Z 214
- Hashemite Kingdom of Jordan *see* Transjordan
- HASSAN BEY A 261
- HASSELMANN C M 62 251
- HAYEK S 238
- HAZARD R 173
- HEAFEY M J 49
- Health Assembly *see* World Health Assembly
- Health education 113
 - consultant 141
 - information centre established by Pacific Science Council 41
 - legislation international documentation on 135
 - price of 321

Health education (*continued*)

- relation to social and economic development 323
- statistics 115
 - Division of WHO 239
 - Expert Committee on *see* Expert Committee
 - in Europe during 20th century 239
 - international training course in 275
 - teaching of 336
- Heart disease congenital WHO teams 78
- HELAISSI A R 216
- HEMMES G D 216
- HENTCH Y 219
- HERTZBERG G 62
- Hersheimer reaction in neurosyphilis 13
- HESSLING H C 216
- HIGGINS J A 335
- HILL K R 62
- HILL M 218
- HILL N 219
- HJARNE U 16
- HOEDEN J VAN DER 133
- HOJER J A 217 238 306
- HOLLSTROM E 11
- HOLM J 18 214
- HOLMES W E 334
- HOLSTEIN M M 325
- HOLT G 147
- Hong Kong 320
 - enteric fevers since 1947 160
- Hospital dietetics 50
 - in Ceylon 334
 - training course in India 112 261
- HOSTIE M J 54
- HUDSON E H 142
- HUDSON M 62
- HUGGINS D R 61
- HUGHES J H 147
- Human Rights Draft Covenant on 237
- Hungary 105
- HURTADO F 214 219 238
- HURTADO J DE 219
- HUSFELD E 80
- HUSSEIN PASHA A G 214
- HUSSEINI F S 216
- HUTCHINGS L M 127
- Hyaluronidase 75
- Hydatidosis 132 135 313
 - bovine 40
- HYDE H VAN ZILE 29 217 238
- Hydrocarbons chlorinated priority for purchase granted to WHO 277
- HYLANDER F B 214

- Filariasis 50 109
 Maldive Islands survey completed 140
 Finland 18 105 109 112 214 275
 influenza epidemic 52
 maternal and child health 110
 symposium on syphilis Helsinki 9
 tuberculosis control course 313
 diagnosis and treatment 104
 FLEMING R 231 306
 FLENNER A 288
 Flury vaccine 277
 FOESSEL M J 214
 Food and Agriculture Organization *see*
 FAO
 Foot and mouth disease control in Brazil
 278
 Formosa tuberculosis-control project 247
 FORSSMAN S 306
 FOUQUET P 306
 Framboesia *see* Yaws
 France 72 114 214 275 319
 brucellosis centre 167
 enteric fevers since 1947 156 157
 influenza in 1950 1 330
 maternal and child health 110
 poliomyelitis in 1950 167
 rural public health demonstration and
 training centre Soissons 313
 smallpox mortality rate 245
 symposium on syphilis Paris 9
 FRANCIS J 133
 FRANDSEN J 214
 FRANKENSTEIN L 219
 French Equatorial Africa kwashiorkor in
 263
 French India 50 317
 French North Africa poliomyelitis in 1950
 161
 French West Africa
 kwashiorkor in 263
 malaria in 327
 FREYCHE M J 20 330
 FRIIS E 247
 FULTON J T 304

 GACULA R 216
 GALE M 213 316
 GALLEY R A E 147
 GALLONE G 262
 Gambia kwashiorkor in 263
 GAMBOA R P 216
 Gammexane *see* Benzene hexachloride
 GARCÍA E 214
 GARCÍA SANCHEZ F 216
 GARCIN G 311
 GARNHAM P C G 59
 GARRET JONES C 28
 GAUD M 54
 GAUTHIER P 213
 GEAR H S 35 54 218 273
 GEERAERTS L A D 213
 Geneva Conventions 295
 GERHARDSEN A 62
 Germany 18 72 214
 admitted to membership in WHO 193
 enteric fevers since 1947 156 158
 influenza epidemic, 52
 measles mortality rate 242
 poliomyelitis in 1950 166 167
 smallpox mortality rate 245
 typhus epidemics 245
 GIAQUINTO M 28
 Gibraltar influenza epidemic 52
 GILBERT M 219
 Gilbert and Ellice Islands 333
 GILBERTSON W E 217
 GIRALDO JARAMILLO G 218
 GLASSEY H 219
 GLEDHILL A W 52
 Goitre 50
 endemic
 in Brazil 112 262
 Central America 261
 Ceylon 112 262
 Colombia 112 262
 Ecuador 112 262
 Guatemala 112 262
 Mexico 112 262
 South America 261
 Gold Coast
 kwashiorkor in 263
 rickettsiosis 22
 GOLDBERG K 306
 GONZÁLEZ C L 217 238
 GONZÁLEZ SOSA R 216
 GOOD H 79
 GORDON J E 276
 GORTER C 255
 GOUGEROT H 11
 Granuloma inguinale 45
 GRASSET E 74 217
 Great Britain *see* United Kingdom
 Greece 18 114 214
 brucellosis centre 167
 influenza epidemic 52
 malaria control 85 88
 poliomyelitis in 1950 166

- International Treponematoses Laboratory
Centre Baltimore 108
- International Tuberculosis Campaign 18
46 72
- International Union against Cancer 219
- International Union for Child Welfare 219
- Iran 67 215
dental health needs 28
enteric fevers since 1947 160
influenza in 1950-1 332
malaria control 28
medical teaching mission 275 306
- Iraq 67 193 215 306
bejel and syphilis control 119
bilharziasis survey 60
enteric fevers since 1947 160
health survey 334
treponematoses-control project 105
- Ireland 112 215 275
BCG vaccination 104
poliomyelitis in 1950 166
- IRO 42 110 218 295
- Israel 18 67 78 109 193 215
brucellosis control 277
enteric fevers since 1947 160
influenza epidemic 52
medical teaching mission 275
poliomyelitis in 1950 161 165
rabies control 277
- Istanbul Tuberculosis Centre 117
- Istituto Superiore di Sanita Rome 274
314
- Italy 18 105 109 112 215 275
brucellosis centre 167
diphtheria mortality rate 242
influenza in 1950-1 330
malaria control 85 88
paratyphoid fever mortality rate 239
smallpox mortality rate 245
syphilis programme WHO UNICEF 172
tuberculosis diagnosis and treatment
104
typhoid and paratyphoid fevers since 1947
156 157
typhoid fever mortality rate 239
typhus epidemics 245
- IVERSEN T O 305
- Ixodidae* 20
- IYENGAR M O T 140
- JACCARD R 219
- JACOBSEN E 306
- JADASSOHN J 288
- JAFAR M 35 178 186 216 238
- Jamaica
enteric fevers since 1947 160
poliomyelitis in 1950 162
tuberculosis-control project 247
- JANBON M 127
- JANNOPoulos C 305
- Japan 215 319 320
admitted to membership of WHO 193
application for WHO membership 59
enteric fevers since 1947 160
influenza epidemic 52
in 1950-1 332
- JAYASINGHE D A 62
- JAYAWARDENE I 62
- Jeddah Quarantine Station 230
- JELLINEK E M 231 233 306
- Johns Hopkins School of Hygiene and
Public Health 336
- Joint Committee on Health Policy
UNICEF/WHO 37
- Joint Committee on Hygiene of Airports
WHO/ICAO 182
- Joint Committee on Occupational Hygiene
ILO/WHO 291
- Joint Enterprise 19 29 46 103
- Joint Expert Committee on Nutrition FAO/
WHO 31 321
second session 261
membership 261
- Joint Expert Group on Zoonoses WHO/
FAO 40
first session 132
membership 132
- Joint Expert Panel on Brucellosis FAO/
WHO 40
first session 127
membership 127
- Joint Study Group on African Rickettsioses
OIHP WHO 20 76
- JOLL A E 217
- JOSEPH A J 213 316 336
- KAHANY M 215
- Kala azar 109 249
- Kararan Quarantine Station 230
- KAPLAN M M 127 133
- KAPRIO L 305
- KARABUDA N 211 217 236 238
- KARUNARATNE W A 213 236 238
- Kenya
enteric fevers since 1947 160
kwashiorkor in 463
poliomyelitis in 1950 161
rickettsioses 22

- Iceland 214
 influenza epidemic, 52
 poliomyelitis in 1950 161
- Ilaro Experimental Anopheles Eradication Scheme 336
- ILO 112, 218 237 291
Legislative Series 137
- India 18 25 50 109 114 214 277 206
 dietetics consultant 61
 famine relief 237
 health education 113
 hospital dietetics training course 112
 influenza in 1950-1 332
 malaria control 43 44 85 07
 maternal and child health 47 110 317
 centre Calcutta 317
 nutrition course, 276
 plague control 245
 epidemiology in Bombay Province 269
 poliomyelitis in 1950 165
 serology conference 334
 trachoma control 315
 treponematoses 45
 tuberculosis centre 36
 venereal disease demonstration project 171
- India Council of Medical Research 105 317
- Indonesia, 25 92, 215 34
 malaria control 91
 maternal and child health 47 110
 treponematoses-control project 105
 laws-control campaign 62, 172, 249
- Infant
 mortality in South East Asia 47
 premature 110
- Influenza
 in 1950-1 30
 recent epidemics and the World Influenza Centre 51
 virus 52 53
 World Influenza Centre London 109
- Insecticides action on *A. gambiae* 100
- INCRAM N. R. Jr 11
- INCRAM G. M. 217
- INCRAM R. 141
- Insect control training course 305
- Insecticides, 85 277
 DDT *see* DDT
 Expert Committee *see* Expert Committee on Insecticides
 methods of application 147
 residual 172
 specifications 147
- Insecticides (*continued*)
 spraying apparatus, 151
 supply 185 321
 test procedures, 151
 views of Expert Committee on Malaya, 185
- Institute of Nutrition of Central America and Panama, 112
- Inter American Association of Sanitary Engineering 219
- Intergovernmental Conference of Far Eastern Countries on Rural Hygiene, 155
- International Academy of Legal Medicine and of Social Medicine, 219
- International Air Transport Association, 225 229
- International Anti Venereal Disease Commission of the Rhine 72, 190
- International Children's Centre, Paris, 11, 313
- International Civil Aviation Organization (ICAO) 215 225 236
- International Conference of Social Work, 219
- International Council of Nurses, 219 255
- International Dental Federation 219
- International Diet of Health Legislation* 135
- International Hospital Federation 219
- International Leprosy Association 219
- International List of Venereal-Disease Treatment Centres at Ports* 105
- International Lists of Diseases and Causes of Death 313
- International Pharmaceutical Federation 226
- International Refugee Organization, *see* IRO
- International Research Centre for Chemical Microbiology Rome, 274
- International Salmonella and Escherichia Centre 39
- International salmonella centres, 109
- International Sanitary Conventions, 114
- International Sanitary Regulations, 54 9, 115 123 179 223
 application 229
 history 24
 publication 231
 scope and limitations, 226
- International Serological Laboratory Conference, 39
- International Society for the Welfare of Cripples, 219

- International Treponematoses Laboratory
Centre Baltimore 108
- International Tuberculosis Campaign 18
46 72
- International Union against Cancer 219
- International Union for Child Welfare 219
- Iran 67 215
dental health needs 28
enteric fevers since 1947 160
influenza in 1950-1 332
malaria control 28
medical teaching mission 275 306
- Iraq 67 193 215 306
bejel and syphilis control 119
bilharziasis survey 60
enteric fevers since 1947 160
health survey 334
treponematoses control project 105
- Ireland 112 215 275
BCG vaccination 104
poliomyelitis in 1950 166
- IRO 42 110 218 295
- Israel 18 67 78 109 193 215
brucellosis control 277
enteric fevers since 1947 160
influenza epidemic 52
medical teaching mission 275
poliomyelitis in 1950 161 165
rabies control 277
- Istanbul Tuberculosis Centre 117
- Istituto Superiore di Sanità Rome 274
314
- Italy 18 105 109 112 215 275
brucellosis centre 167
diphtheria mortality rate 242
influenza in 1950-1 330
malaria control 85 88
paratyphoid fever mortality rate 239
smallpox mortality rate 245
syphilis programme WHO/UNICEF 172
tuberculosis diagnosis and treatment
104
typhoid and paratyphoid fevers since 1947
156 157
typhoid fever mortality rate 239
typhus epidemics 245
- IVERSEN T O 305
- Ixodidae* 20
- IYENGAR M O T 140
- JACCARD R 219
- JACOBSEN E 306
- JADASSOHN J 88
- JAFAAR M 35 178 186 216 238
- Jamaica
enteric fevers since 1947 160
poliomyelitis in 1950 162
tuberculosis-control project 247
- JANBON M 127
- JANNOPOULOS C 305
- Japan 215 319 320
admitted to membership of WHO 193
application for WHO membership 59
enteric fevers since 1947 160
influenza epidemic 52
in 1950-1 332
- JAYASINGHE D A 62
- JAYAWARDENE I 62
- Jeddah Quarantine Station 230
- JELLINEK E M 231 233 306
- Johns Hopkins School of Hygiene and
Public Health 336
- Joint Committee on Health Policy
UNICEF/WHO 37
- Joint Committee on Hygiene of Airports
WHO/ICAO 182
- Joint Committee on Occupational Hygiene
ILO/WHO 291
- Joint Enterprise 19 29 46 103
- Joint Expert Committee on Nutrition FAO/
WHO 31 321
second session 261
membership 261
- Joint Expert Group on Zoonoses WHO/
FAO 40
first session 132
membership 132
- Joint Expert Panel on Brucellosis FAO/
WHO 40
first session 127
membership 127
- Joint Study Group on African Rickettsioses
OIHP/WHO 20 76
- JOLL A E 217
- JOSEPH A J 213 316 336
- KAHANY M 215
Kala azar 109 249
- Kamran Quarantine Station 230
- KAPLAN M M 127 133
- KAPRIO L 305
- KARABUDA N 211 217 236 238
- KARUNARATNE W A 213 236 238
- Kenya
enteric fevers since 1947 160
kwashiorkor in 263
poliomyelitis in 1950 161
rickettsioses 22

- Iceland 214
 influenza epidemic 52
 poliomyelitis in 1950 161
- Ilo Experimental Anopheles Eradication Scheme 336
- ILO 112 218 237 291
Legislative Series 137
- India 18 25 50 109 114 214 277 306
 dietetics consultant 61
 famine relief 237
 health education 113
 hospital dietetics training course 112
 influenza in 1950 1 312
 malaria control 43 44 88 307
 maternal and child health 47 110 317
 centre Calcutta 317
 nutrition course 276
 plague control 248
 epidemiology in Bombay Province 269
 poliomyelitis in 1950 165
 serology conference 334
 trachoma control 318
 treponematoses 45
 tuberculosis centre 336
 venereal disease demonstration project 171
- India Council of Medical Research 108 317
- Indonesia 25 92 215 334
 malaria control 91
 maternal and child health 47 110
 treponematoses-control project 105
 yaws-control campaign 62 172 249
- Infant
 mortality in South East Asia 47
 premature 110
- Influenza
 in 1950-1 330
 recent epidemics and the World Influenza Centre 51
 virus 52 53
 World Influenza Centre London 109
- Insecticides action on *A. gambiae* 100
- INGRAHAM N R jr 11
- INGRAM G M 217
- INGRAM R 141
- Insect control training course 305
- Insecticides 85 277
 DDT *see* DDT
 Expert Committee *see* Expert Committee on Insecticides
 methods of application 147
 residual 172
 specifications 147
- Insecticides (*continue*)
 spraying apparatus 151
 supply 148 321
 test procedures 151
 views of Expert Committee on Malana 155
- Institute of Nutrition of Central America and Panama 112
- Inter American Association of Sanitary Engineering 219
- Intergovernmental Conference of Far Eastern Countries on Rural Hygiene 155
- International Academy of Legal Medicine and of Social Medicine 219
- International Air Transport Association 225 229
- International Anti Venereal Disease Commission of the Rhine 72 190
- International Children's Centre Paris 112 313
- International Civil Aviation Organization (ICAO) 218 225 236
- International Conference of Social Work 219
- International Council of Nurses 219 288
- International Dental Federation 219
- International Digest of Health Legislation* 135
- International Hospital Federation 219
- International Leprosy Association 219
- International List of Venereal-disease Treatment Centres at Paris* 108
- International Lists of Diseases and Causes of Death 313
- International Pharmaceutical Federation 256
- International Refugee Organization *see* IRO
- International Research Centre for Chemical Microbiology Rome 274
- International Salmonella and Escherichia Centre 39
- International salmonella centres 109
- International Sanitary Conventions 114
- International Sanitary Regulation 54 92, 115 123 179 223
 application 229
 history 224
 publication 231
 scope and limitations 226
- International Serological Laboratory Conference 39
- International Society for the Welfare of Cripples 219

- MADWAR S 90
 MAISON J 219
 MALAN R 215
 Malaria 50 230
 chemotherapy 155
 Conference in Equatorial Africa 95 151
 152 155 324
 control 100 154 177 317
 by residual insecticides 85
 demonstration teams 26 88 101
 effect on agricultural production 26
 in Afghanistan 88 248
 Argentina 85 86
 Bolivia 86
 Brazil 86
 British Guiana 87
 Ceylon 87
 Ecuador 86
 Equatorial Africa 99 152
 Greece 85 88
 India 88 307
 Indonesia 91
 Iran 28
 Italy 85 88
 Madagascar 85
 Mauritius 86 328
 Mexico 87
 Peru 87
 Portugal 88
 South Africa 85
 South East Asia 43 50
 Southern Rhodesia 86
 Thailand 91
 USA 87
 Venezuela 87
 Western Pacific 321
 Expert Committee on *see* Expert Com-
 mittee on Malaria
 geographical distribution in Equatorial
 Africa 96
 in Eastern Mediterranean 71
 Equatorial Africa 97 324
 French West Africa 377
 Nigeria 325
 international control measures 236
 mortality figures in Europe 242
 South West Africa survey 326
 training course in Lisbon 91
 vector anopheles 96
 vectors in Africa 325 327
 WHO/UNICEF projects 248
 Malaria Institute Karachi 69
 Malaya 113 277 370
 enteric fevers since 1947 160
 MALCHI A 215
 Maldives Islands 109 140
 MALEKI M A 307
 Malnutrition prevention and treatment 190
 265
 Malta 18
 influenza epidemic 52
 poliomyelitis in 1950 166
 MA MOEN AL RASHID KOESOEMADILAGA
 215
 MANCHEGO E P 216
 MANGER W 28
 MANI C 25
 MANNHEIMER E 78
 MANTEUFFEL, — 79
 MANTHEI C 127
 *Manual of the International Statistical
 Classification of Diseases Injuries and
 Causes of Death* 138 275 313
 MARAMBA L 277
 MARCEL H 218
 Maritime sanitary convention 173
 MARK R S 214
 MARLIN E R 218
 MARZI G DE 262
 MASHALI Bey M 336
 MASON W W 216
 MASPETIOL R 214
 MASSERMAN J 306
 Maternal and child health 110
 centre Calcutta 317
 in Eastern Mediterranean 71
 team for Burma 141
 Maternal care and mental health 83
 MATHEW M I 140
 MATTE BLANCO I 306
 MAUNG GALE 213 316
 MAURER G 219
 Mauritius
 enteric fevers since 1947 160
 malaria control 86 328
 poliomyelitis in 1950 161
 MAYER GROSS W 306
 MAYSTRE J 219
 MAZZETTI G 127
 Measles mortality figures in Europe 242
 Meat hygiene 313
 Mecca Pilgrimage sanitary control of 54
 123 125 230
 Medical education 50
 undergraduate 293
 Medical personnel education and training
 of 184 287
 Medical supplies for South East Asia 50

- KIRCHOVE D EXAERDE Baron F DE 213
 KESTEVEN K V L 127 133
 KEYS A B 261 265
 KHADDOURI Y 215
 KHALIL BEY 178
 KHANACHET S 216
 KHIAUM A 213
 KINGSBURY J A 198
 KLEMPERER P 276
 KLIMT C 330
 KLOSE F 214
 KNUTSON D 217
 KOCII J 305
 KODJAT R 250 251
 KOFISOEMADILAGA M A R 215
 KOO Y S 215
 Korea 215 315 320
 emergency aid 110
 relief projects 38
 sanitation advisory services 111
 KRAO P 334
 KRAUS G 306
 KUROKAWA, T 215
 KVVITTINGEN J V 334
 Kwashiorkor 112 263
- Laboratory technicians medical training of 302
 LAET M DE 35 173 199 213 219 238
 Lagos Mosquito Control Scheme 326
 LAKSHMANAN C K 25 35 277 317
Lamp is Lit 172
 Laos 92 215 319 320
 LAPPE P O 30
 LAPPONI L 262
 LARSSON A 217
 LAT U K M 314
 League of Nations 324
 League of Red Cross Societies 72 219
 Lebanon 18 67 109 114 115
 influenza epidemic 52
 Lecithin 15 39 73 76
 antigens 265
 preparation 266
 Legislation on health international docu-
 mentation on 135
 LEIMAN H L 217
 Leishmaniasis 135
 effectiveness of insecticides 90
 in Eastern Mediterranean 70
 see also Kala azar
 LEMBREZ J 147
 LEMKAU P V 306
 LENTJES J M 54
- Léon Bernard Foundation Prize 59 178 196
 Lepromin test 41
 Leprosy 109 317
 consultants in Ceylon and Ethiopia 58
 Expert Committee on 41
 sulphetrone treatment demonstrated in
 Ethiopia 28
 treatment with sulfones 41
 Leptospirosis 135 313
 LERBOULLET J 14
 LETIBRIDGE A 218
 LEVINE S Z 276 307
 LI, H Y 334
 Liberia 109 215
 kwashiorkor in 263
 sanitation advisory services 111
 Library and reference services of WHO 115
 Libya 67
 LIE T 314
 LIE KIAN YOE 215
 LIFSCHITZ B 218
 LINDER A 219
 LINDQUIST H 15
 LISSAC A 214
 LIVE I 127
 LOGAN J A 147
 LOGAN W P D 217
 LOKANATHAN — 314
 LOURIE I M 335
 LUNDQUIST G A R 231 306
 LUNDSGAARD E 306
*Lutte antipaludique par les insecticides à
 action résistante* 172
 Luxemburg 109
- MAALOE O 74
 MACCALLUM E P 213
 MACCALMAN D R 219
 MCCULLOUGH N 127
 MCCUSKER E A 213
 MACDONALD G 152
 McDougall F L 218
 McDougall J 61
 MACEachern M T 217
 MACKENZIE L M 16
 MACKENZIE M 35
 MACKENZIE M D 54 217 238
 MACKINTOSH J M 198
 MACLEAN F S 216
 MCPHAIL J E B 141
 Madagascar
 enteric fevers since 1947 160
 malaria control 85
 MADSEN T 193

- NIXSON R M 217
 NOACH P F 215
 NORTH G 217
 North Africa 18
 North Borneo 113 320
 Northern Ireland
 influenza epidemic 51
 poliomyelitis in 1950 166
 Norway 112 193 216 275
 brucellosis 129
 dental services 271
 influenza epidemic 51
 poliomyelitis in 1950 166 167
 tuberculosis control course 313
 Norwegian Relief for Europe 18
 NOSCHIS K W 62
Notes et Etudes Documentaires 120
 Nurses training 114 297
 Nursing 112 118
 auxiliaries training of 310
 consultant visits South East Asia 61
 Expert Committee *see* Expert Committee
 on Nursing
 in Australia 170
 New Zealand 170
 South East Asia 49
 staff of WHO 118
 Nutrition 112
 course in South East Asia 276
 disorders of 261
 in Ceylon 334
 Eastern Mediterranean 71 112
 Egypt 112
 Yugoslavia 112
 Joint Committee *see* Joint Expert Committee
 training course in Cairo 71
 Nutritional status assessment of 264
 Nyasaland rickettsioses in 21
 NYBOE J 18
 NYSWANDER D B 16

 OBRACUNE R I 305
 Occupational health 111
 Occupational hygiene Joint Committee
 ILO/WHO *see* Joint Committee
 Oceania
 influenza in 1950-1 332
 poliomyelitis incidence in 1950 167
 typhoid and paratyphoid fevers since 1947
 160
 ODEGARD O 306
 Office International des Epizooties (OIE)
 135 167
 Office International d'Hygiène Publique
 (OIHP) 54 123
 documentation on health legislation 135
 Joint study groups with WHO *see* Joint
 Study Group on African Rickettsioses
 OIHP/WHO
 Offices of WHO 106
 Official Records of the World Health Organ-
 ization 181 185 231
 O FLANAGAN H 215
 OLCAR K 217
 OLITZKI L 127
 OLSEN O E W 214
 OMAR W 92
 ORSA S 216
 ØRSKOV J 74
 OSMOND CLARKE H 276
 OSVIK A B 335
 OUROT SOUVANNAVONG M 215
 Oxophenarsine 75

 PACHECO G 127
 PADUA R G 209 216 238 319
 Pakistan 18 67 109 216
 kala azar control 249
 malaria control 26 249
 maternal and child health 110
 PALANCA J 216
 Palestine refugees
 eye diseases 276
 PAMPANA E J 86 95 152 172
 Pan American Sanitary Bureau (PASB)
 38 113 143 227 324 335
 Aftosa Centre in Brazil 278
 Assistant Director biographical note on
 274
 48th anniversary 28
 new headquarters 63
 Pan American Sanitary Code 1 3
 Pan American Sanitary Conference 38
 Pan American Sanitary Convention 123
 Pan American Sanitary Organization 28
 headquarters site 38
 Panama 92 216
 poliomyelitis in 1950 161 162
 PANGBORN M 14 266
 PAPANICOLAOU B N 246
 Paratyphoid fever
 mortality figures in Europe 239
 world incidence since 1947 156
 PARISOT J 30 173 184 199 214 236 238
 287 292
 Parr peroxide bomb insecticide test 151

- Medicine Illustrated* 142
 MELINC R S 217
 MILLION B DE 325
 MILLBYE F 216
 MILLS F A 217
 MENDONÇA A 213
 MENDY R M 133
 Meningitis tuberculous treatment 56
 MINON M A U 140
 Mental health 112 306
 Expert Committee on *see* Expert Com
 mittee on Mental Health
 of children 83
 MER G G 147
 METCALFE A J 213
 Methoxychlor specifications for 151
 Mexico 18 216
 BCG laboratory 104
 brucellosis centre 167
 goitre incidence 112 262
 malaria control 87
 poliomyelitis in 1950 162
 tuberculosis-control project 247
 Microbiology international research centre
 274
 Midwifery auxiliaries training of 301
 MILIS A A 74
 MILOSLVIC O 218
 MINGLE C K 127
 MISSIROLI A 147
 MISTRAL M 335
 MITRA Sir D 215
 MITRA K 277
 MOALÉD HEKMAT M A 215
 MOE G K 276 307
 MOL C J M 216
 MOLITOR L 215
 MÖLLER P 11
 MONACELLI M 13
 Monaco 104 216
 Monograph Series *see* World Health Organ
 ization Monograph Series
 MOORO Pasha A W 214
 MOOSER H 217
 MORAN B L 127
 MORGAN M T 54 178 179 217 224 225
 MORGAN T E 217
 Morocco
 enteric fevers since 1947 160
 rickettsioses 22
 MORRIS L E 276 307
 MORRIS R M 219 292 300
 Mortality in Europe during 20th century 239
 Mosquito
 control use of DDT and BHC 329
 eradication from aircraft and ships 148
 in Cyprus 153
 Equatorial Africa 152
 Sardinia 153
 Mosquitoes proposed listing by WHO 154
 MOTT, F D 213
 MOULTON R J 54
 MUDALIAR Sir A L 35 184 214 292 293
 MULHOLLAND H B 217
 MÜLLER M 231 306
 MÜLLER Th 217
 MURAZ G L F 214
 MURDOCK J R 29
 MUSIL E 219
 NALLIAH V 209 213
 NASIRUDDIN M 216
 NASR Bly M A 214
 NASRALLAH S 215
 NASSAU E 62 246
 National Institute for Medical Research
 London 51 75
 NATWICK M L 219
 NELSON A 62
 Nepal 218
 Netherlands 72 114 215 275 319
 diphtheria mortality rate 242
 influenza epidemic 52
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 167
 typhoid fever mortality rate 239
 venereal disease demonstration project in
 Rotterdam 313
 Neurosyphilis diagnostic and therapeutic
 problems 13
 New Caledonia
 influenza in 1950-1 333
 New Hebrides
 influenza in 1950 1 333
 New Zealand 193 216 320
 dental care for schoolchildren 304
 nursing services 170
 poliomyelitis in 1950 161 167
 NEWMAN Sir G 288
 NGUYEN VAN BUU 218
 Nicaragua 216
 poliomyelitis in 1950 162
 Nigeria
 kwashiorkor in 263
 malaria 325
 mosquito eradication in 153
 rickettsioses 21

- Puerto Rico
 poliomyelitis in 1950 162
 PULLAR STRECKER H 306
 PUNTONI V 215
 PUTKONEN T 13 73
 Pyrethrins 149 150
 Pyrogens 76
- Q fever 132 135 313
 in Africa 22
 Quarantinable diseases discussions on 224
 226
 Quarantine Expert Committee on *see*
 Expert Committee on International Epi-
 demiology and Quarantine
 Quarantine regulations 224
- Rabies 109 135 313
 control in Israel 17 277
 Expert Committee on 17
 RAE A M W 217 219
 RAJA K C K E 54 214
 RAJAGOPAL K 277
 RAJCHMAN L 198
 RAMCHANDANI C V 215
 RANTASALO V V 214
 RAO T R 88
 RASSOUL, A K 213
 Red Cross 18 295
 REDEKER F 214
 REED L J 174
 REES J R 219
 Refugee physicians 191
 Refugees
 Arab in Eastern Mediterranean 72
 Palestine eye diseases among 276
 rehabilitation of 314
 Regional Director for Western Pacific 236
 Regional Office for
 Africa 311
 Americas *see* Pan American Sanitary
 Bureau
 Eastern Mediterranean 67
 Western Pacific 319
 Regional Organization for
 Africa 236 279 311
 Americas 38
 Eastern Mediterranean 67
 Europe 38 312
 Western Pacific 38 319
 Regions of WHO 105
 Rehabilitation in psychiatry 112
 REHTJARVI K 13
 REIN C R 9 15
- Pein-Bavcock serodiagnostic test for syphilis
 10
 Relapsing fever International Sanitary
 Regulations 54
 Relief activities 38
 RENOUX G 127
 REPOND A 219
 Research international laboratories 41
 Rh blood grouping scale 16
 Rheumatism
 Expert Committee on 1
 Rhine anti-entomological use commission 2
 Rhodocia
 Southern 215
 malaria control 60
 Rickettsia
 diagnosis anti-rat 6
 Rickettsiosis 109
 African Joint Study Group OIHP WHO
 76
 human in Africa 70
 RIGLER L G 276 307
 RIQUELME A 262
 RITCHIE J A 7
 Rockefeller Foundation 268 313 324
 ROCQUE DA MOTTA B 213
 ROJAHAIN A H J 213
 RODRIGUEZ C 119
 ROEPKE M 127
 ROMERO Y ORTEGA N 213
 ROOS B K G 217 305
 ROOZENDAAL N A 216
 ROUGÉ M B 219
 ROUMY B 216
 ROUSSY G 288
 ROWLETT A E 219
 Royal College of Physicians London 288
 Ruanda Urundi
 kwashiorkor in 263
 rickettsioses 22
 RUEDI M J 217
 RUIZ CASTANEDA M 127
 RUSSELL P F 157
- SADAT M 217
 St Vincent
 enteric fevers since 1947 160
 SAITA A 215
 Salmonella international centres 39 109
 SALOMONSON R G 275
 Salt iodization of 262
 SAM F 214
 Samoa
 influenza in 1950-1 333

- PAS *see p* Amino-salicylic acid 57
 PASB *see* Pan American Sanitary Bureau 63
 PASCUA M 239
 PASQUINUCCI G 56
Pasteurella pestis varieties of 268
 PATWARDHAN V N 261 277
 PAULA SOUZA G H DE 54 178 194
 Penicillin
 international standard 252
 production in India 317
 therapy in congenital syphilis 11
 in early syphilis 9
 neurosyphilis 13
 venereal disease 108
 yaws 46 250
 Permanent Central Opium Board 218
 Permanent International Pharmacopoeia Secretariat 190
 PERRY W L M 74
 Personnel recruitment of 36
 Pertussis vaccine 77
 PLU 109 216
 enteric fevers since 1947 160
 influenza epidemic 52
 malaria control 87
 poliomyelitis in 1950 162
 typhus-control campaign 63
 PETERS R J 305
 PEYNADO J B 214
 PHAM HUY CO 218
 PHAM LE TIEP 218
 PHAN HUY DAN 210 218 319
 PHARAON R 216
Pharmacopoea Internationalis 39 259
 publication of 255
Pharmacopoeia international
 Expert Committee on 237
 history of 255
 Permanent Secretariat 190
 Pharmacopoeists
 Expert Committee on Unification of *see*
 Expert Committee on Unification of
 Pharmacopoeias
 unification of 39 115 256
 Philippines 41 112 193 216 319 320
 enteric fevers since 1947 160
 maternal and child health 110
 poliomyelitis in 1950 161 165
 training of nurses 118
 Physicians
 refugee 42
 training 114
 PICKARD B 218
 PINHO B A V DE 216 305
 PITSCH F W, 214
 Pituitary anterior growth hormone of 75
 Plague 109
 bacillus varieties of 268
 control in India 248
 effectiveness of DDT 89
 epidemiology in Bombay Province 269
 International Sanitary Regulations 54
Plasmodium
 falciparum 327 329
 nalariae 327
 vivax 327
 PLATT B S 262
 PLUM N 133
 Poland 18 78 105
 maternal and child health 110
 tuberculosis diagnosis and treatment 104
 withdrawal from WHO 194
 Poliomyelitis 50 109 161
 Population problems studies on 237
 Ports hygiene and sanitation of 228 370
 Portugal 216
 malaria control 88
 paratyphoid fever mortality rate 239
 typhoid fever mortality rate 239
 typhus mortality rate 245
 Portuguese India 50 277
 POWELL N P 336
 PPD tuberculin 133
 PRAUSNITZ C 288
 Prematurity 110
Presse Médicale 173
 Preventive medicine economic aspects of, 321
 PRICE I N O 74
 Programme for 1952 36 185
Prophylaxie antivenérienne 120
 Prothrombin 75
 Psittacosis 132 135
 Psychiatry and juvenile delinquency 23
 Public health
 centres 41
 legislation international documentation on 135
 personnel education and training of 184 287
 rural problems 313
 services organization of 109
 specialist training in 297
 Public information services of WHO 115
 Publications of WHO 115 172
 See also names of publications

- Spain (*continued*)
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 165 166
 smallpox mortality rate 245
 typhoid fever mortality rate 239
 typhus 245
- SPALLICCI A 215
- Special Committee on Draft International Sanitary Regulations 224
- SPINA W W 127 278
- Spraying apparatus for insecticides 150
- STABLEFORTH A W 127
- STAMPAR A 35 197 199 218 305
- Stamps in aid of WHO fund 36
- Standing Committee on Administration and Finance 36 187
- Statens Seruminstitut Copenhagen 29 75 109
- Statistical centre established 138
- Statistics training courses in Egypt and Ceylon 336
- STEBBINS E L 28
- STEELE J H 127 133
- STEFFEN A 217
- Stepanow insecticide test 151
- STEPHENSON E 61
- STERN G 173
- STEVENS P 28
- STIEBLING HAZEL K 261
- STOCKS P 138 275
- STORCK H 15
- STOWMAN K 217
- Streptococcus antitoxin 76
- Streptomycin
 international standard 74 252
 therapy in brucellosis 130
 in tuberculosis 104
 tuberculous meningitis 56
- STROBI K 213
- STROMGRÉN E 406
- STUART G 54
- Students health of 292
- Study tour by public health officials 305
- Sudan *see* Anglo Egyptian Sudan
- Sulfonamide therapy of brucellosis 130
- Sulfones efficacy in leprosy 41
- Sulphethione treatment of leprosy in Ethiopia 28 58
- Surinam 109
- Sweden 112 217 275
 dental services 272
 diphtheria mortality rate 24
 enteric fevers since 1947 156
 health education 113
- Sweden (*continued*)
 influenza epidemic 51
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 167
 smallpox mortality rate 245
 study tour 305
 tuberculosis control course 313
 typhoid fever mortality rate 239
- Swedish Red Cross 19
- SWELLENCREBEL N H 15
- Switzerland 72 114 217 275
 enteric fevers since 1947 156
 influenza epidemic 57
 in 1950-1 330
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 167
 smallpox mortality rate 245
 typhoid fever mortality rate 239
 whooping-cough mortality rate 240
- Syphilis 105
 congenital treatment with penicillin 11
 control in Ecuador 118
 in India 179
 Iraq 119
 diagnostic and therapeutic problems 13
 early problems of treatment 9
 H. *rheimer* reaction 13
 in pregnancy treatment of 12
 serodiagnosis 14 76 265 267
 symposium at Helsinki and Paris 9
 treatment with arsenic and bismuth 11
 with penicillin 9
- Syria 18 67 109 217
 bilharziasis survey 60
 enteric fevers since 1947 160
- TABA A H 178 215
- TAG Closed Tester for insecticides 151
- Tahiti
 influenza in 1950 1 333
- TALJAARD C H 217
- TANDLER J 288
- Tanganyika
 poliomyelitis in 1950 161
 rickettsioses 21
- TAUTE M 88
- TAYL F DE 54 147
- TAYLOR B 334
- TAYLOR J 218
- TCHERNAT T 214
- Teaching
 equipment for South East Asia 50
 mission to Israel and Iran 275
- Technical Assistance Programme 37

- San Marino 218
 SAND R. 9 178 184 196, 219 287
 Sandfly fever 90
 Sanitary
 qualification training of 61
 Conventions, international 114
 engineers, European, first seminar for 91
 training of 14
 Regulations, International, see International Sanitary Regulations
 Sanitation, environmental 110
 Sarawak 11 20
 Sarinina, mosquito eradication, 185
 Saudi Arabia, 67 92, 216
 bi hazards survey 60
 SALTER A. 08
 SAVONEN S. S. 214
 SAWYER, W. A. 197
 Scarlet fever
 mortality figures in Europe, 240
 SCHEFFEL L. A. 178 200 209 217
 Schistosomiasis, see Bilharziasis
 SCHWIDT E. 4
 SCHWIDT M. 1 06
 SCHWITZER A. S. 215
 School
 dental clinics in New Zealand, 304
 health services 110
 Expert Committee on 18
 Scotland
 poliomyelitis in 1960 166
 SCRIMSHAW N. S. 262
 Seafarers, health services for 14
 SEBELIUS C. L. 271
 SELVA SANDOVAL, E. 216
 SEMB, C. 276
 Seminar, first, for European sanitary engineers, 91
 Senegal
 rickettioses, 22
 Serology conference, India 4
 SHAH K. S. 216
 SHAKHASHIRI Z. 208 215 292, 297
 SHARIF M. 269
 SHAW P. 213
 Shigella, international centre, 9
 Shins, disinsectionation 147 150
 SHORTT H. E. 69
 SHOU SHA, Pasha Sir A. T., 28 67
 Sickness, economic effects, 21
 Sierra Leone
 rickettioses, 22
 SICERST H. E. 198 288
 SICKUNDON S. 305
 SIGURJONSSON, J., 214
 SILVABANI, G., 215
 SILVA TRAVASSOS, A. DA, 216
 SIMMONS, S. W., 89 147
 SIMMS, B. T., 127
 Singapore, 220
 SINCH J., 152
 Sleeping sickness, see Trypanosomiasis
 SMALL, J. M., 219
 Smallpox, 109
 International Sanitary Regulations, 54
 mortality figures in Europe, 245
 vaccination requirements, 226
 varicella, 77
 SMOLKE N., 218
 Social health, 111
 SODA T., 218
 SODDY A., 219
 SOERONO, M. 218
 Somalia, 67
 Somaliland
 British, 67
 French, 67
 tuberculous incidence, 104
 SON MAM, 719
 SOPER F. L., 28 89 227
 SORENSEN, B., 214
 SOUSA SARRINHA, A. L., 714
 South Africa, see Union of South Africa
 South East Asia
 health directors conference, 28
 infant mortality 47
 malaria control, 43 50
 nursing, 49 61
 nutrition course, 276
 recruitment and training of medical assistants, 26
 Regional Committee, fourth session, 114
 Regional Office, 42
 Regional Organization 42
 tuberculosis control 46
 WHO activities, 42
 vaccines control 45
 South-West Africa
 malaria survey 26
 SOUVANNANONG, M. O., 215
 SOUZA BANDIRA, O. DE 21
 SOUZA E SILVA C. A. DE 1
 Spain, 216
 admitted to membership of WHO 103
 enteric fevers, pre 1947 156, 158
 influenza epidemics, 51
 in 1960-1 40
 malaria mortality rate 242

- Spain (*continued*)
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 165 166
 smallpox mortality rate 245
 typhoid fever mortality rate 239
 typhus 245
- SPALLICCI A 215
- Special Committee on Draft International Sanitary Regulations 224
- SPIKE W W 127 278
- Spraying apparatus for insecticides 150
- STABLEFORTH A W 127
- STAMPAR A 35 197 199 218 305
- Stamps in aid of WHO funds 36
- Standing Committee on Administration and Finance 36 187
- Statens Seruminstitut Copenhagen 29 75 108
- Statistical centre established 138
- Statistics training courses in Egypt and Ceylon 336
- STEBBINS E I 28
- STEELE J H 127 133
- STEEFEN A 217
- Stepanow insecticide test 151
- STEPHENSON E 61
- STERN G 173
- STEVENS P 28
- STIEBELING HAZEL K 261
- STOCKS P 138 275
- STORCK H 15
- STOWMAN K 217
- Streptococcus antitoxin 76
- Streptomycin
 international standard 74 252
 therapy in brucellosis 130
 in tuberculosis 104
 tuberculous meningitis 56
- STROBI K 213
- STRÖMGREN I 306
- STUART G 54
- Students health of 292
- Study tour by public health officials 305
- Sudan *see* Anglo Egyptian Sudan
- Sulfonamide therapy of brucellosis 130
- Sulfones efficacy in leprosy 41
- Sulphatrene treatment of leprosy in Ethiopia 28 58
- Surinam 109
- Sweden 114 217 275
 dental services 272
 diphtheria mortality rate 242
 enteric fevers since 1947 156
 health education 113
- Sweder (*continued*)
 influenza epidemic 51
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 167
 smallpox mortality rate 245
 study tour 305
 tuberculosis control course 313
 typhoid fever mortality rate 239
- Swedish Red Cross 18
- SWELLENCREBEL N H 154
- Switzerland 72 114 217 275
 enteric fevers since 1947 156
 influenza epidemic 51
 in 1950 1 330
 paratyphoid fever mortality rate 239
 poliomyelitis in 1950 167
 smallpox mortality rate 245
 typhoid fever mortality rate 239
 whooping-cough mortality rate 240
- Syphilis 105
 congenital treatment with penicillin 11
 control in Ecuador 118
 in India 172
 Iraq 119
 diagnostic and therapeutic problems 13
 early problems of treatment 9
 H reimer reaction 13
 in pregnancy treatment of 12
 serodiagnosis 14 76 265 267
 symptoms at Helsinki and Paris 9
 treatment with arsenic and bismuth 11
 with penicillin 9
- Syria 18 67 109 217
 bilharziasis survey 60
 enteric fevers since 1947 160
- TABA A H 178 215
- TAG Closed Tester for insecticides 151
- Tahiti
 influenza in 1950 1 333
- TALJAARD C H 217
- TANDLER J 2 8
- Tanganyika
 poliomyelitis in 1950 161
 rickettsioses 21
- TAUTZ M 288
- TAVEL F DE 54 147
- TAYLOR B 334
- TAYLOR J 18
- TCHERNAT T 214
- Teaching
 equipment for South East Asia 50
 mission to Israel and Iran 275
- Technical Assistance Programme 37

- Technical Report Series *See World Health Organization Technical Report Series*
- Terramycin 75
international standard 252
therapy of brucellosis 130
of trachoma 27
- TERROINE R F 261
- Thailand 25 50 217 277 306 315 317 334
antimalaria campaign 91
enteric fevers since 1947 160
malaria control 43 44
maternal and child health 47 110
nursing 50
treponematoses-control project 105
tuberculosis control 335
yaws control 46 61 172
- THAN AUNG 246
- THILIN M G 219
- THORELL H 276
- THOMAS C P 79
- THOMSEN A 127
- THOMSON D 61
- Thoracic surgery unit for Thailand 317
- Thrombin 75
- Thyrotrophin 75
- TIMMERMAN W A 74
- TOCBA J N 215 236 238 311
- TOCHY Bcy A F 214
- Togoland
rickettsiosis 22
- Tonga Islands
influenza in 1950 1 333
- TOTTIE M P V 119
- TOUKHI A H 215
- TOUSSAINT M B 214
- Toxoids 77
- Trachoma 109 188 276
control in Eastern Mediterranean 27 70
in Egypt 70
India 318
- Training of medical and public health personnel 114 287
- TRAN LAM BAO 218
- Transjordan 67 215
enteric fevers since 1947 160
- TRAVLSEA E 305
- TREBOUX J 147
- TRÉFOUIL J 74 173
- Trunch fever in Africa 22
- Treponematoses 105 118 14
control in Ecuador 105
in Haiti 105
India 45
Indonesia 105
- Treponematoses (*continued*)
in Iraq 105
Thailand 105
Expert Committee *see* Expert Committee on Venereal Infections
International Laboratory Centre Baltimore 108
- TRIANTAFYLLOU T 209 214
- Trichinosis 135
- Trombididae* 20
- Tropical ulcer 40
- TRUMAN President H S 28
- Trypanosomiasis ineffectiveness of insecticides 90
- Tuberculin
test for bovine tuberculosis 133
testing in Czechoslovakia 18
see also BCG
- Tuberculosis 50 103 132
bovine 40 133 313
vaccination for 134
centre at Istanbul 60 80 104 117
in India 336
control
courses in Europe 313
in Austria 117
Burma 246
Costa Rica 246
Ecuador 246
El Salvador 247
Formosa 247
Jamaica 247
Mexico 247
Thailand 335
Expert Committee on 18 237
in Czechoslovakia mass BCG vaccination 18
Eastern Mediterranean 71
French Somaliland 104
International Tuberculosis Campaign 18
Research Office Copenhagen 18 29 41 78 115
training centres 104
WHO/UNICEF projects 246
see also BCG Joint Enterprise
- Tuberculous meningitis treatment 56
- Tuboxurarine 75
- Tulariemia 135 313
- Tunisia
enteric fevers since 1947 160
- Turkey 67 78 109 217
aid for Bulgarian refugees 38
brucellosis centre 167
influenza epidemic 52

Turkey (continued)

tuberculosis training centre 60 80 104 117

TURNER C E T 141

TYLER R G 276

Typhoid fever

mortality figures in Europe 239

world incidence since 1947 156

Typhus

control in Afghanistan 67 101

in Peru 63

effectiveness of DDT 89

exanthematic (historical typhus) in Africa 21

International Sanitary Regulations 54

louse borne in Afghanistan 47

mite born in Africa 22

mortality figures in Europe 245

murine in Africa 22

scrub 90

tick in Africa 27

U KHIN MAUNG LAT 314

Ubangi Chari

rickettsioses 22

Uganda

kwashiorkor in 263

malaria conference 95

rickettsioses 21

UNESCO 72 110 113 218 286 292

UNICEF 27 36 37 78 101 103 109 112

141 168 185 218 286 307 313 314 316 317 335

development 4

in Eastern Mediterranean Region 72

mass BCG vaccination in Czechoslovakia 18

office facilities in London made available to WHO 278

treponematoses-control projects 105

tuberculosis-control projects 246

yaws control 177

Union of South Africa 217

brucellosis centre 167

influenza in 1950-1 330

malaria control 85

poliomyelitis in 1950 161

rickettsioses 21

Unitarian Service Committee 275

United Kingdom 109 217 275 319

brucellosis centre 167

dental services in England 273

diphtheria mortality rate 242

enteric fevers since 1947 156

influenza epidemic 51

United Kingdom (continued)

influenza in 1950 1 330

maternal and child health 110

measles mortality rate 242

National Health Service 109

paratyphoid fever mortality rate 239

poliomyelitis in 1950 161 164 166

smallpox mortality rate 245

study tour in Scotland 305

typhoid fever mortality rate 239

United Nations

Economic and Social Council 6 743

Economic Commissions 189

Educational Scientific and Cultural Organization on *see* UNESCO

Mission to Haiti 119

Relief and Works Agency for Palestine

Refugees in the Near East *see* UNR

WAPRNE

Statistical Office 336

Technical Assistance Board 6

United States of America *see* USA

University of

Copenhagen 314

Dublin 334

Liverpool 334

UNRRA 123

UNRWAPRNE 38 77 103 109 110 111 276

UPHOLT W M 89

URBINO C M 89

Uruguay 217

poliomyelitis in 1950 162

USA 217 319

bilateral technical assistance programme 284

brucellosis 129 168

enteric fevers since 1947 156 160

influenza epidemic 52

in 1950 1 332

malaria control 87

poliomyelitis in 1950 161 162 164

technical assistance funds for WHO 4

USTUNDAG E H 217

Vaccination

with BCG *see* BCG

Vaccines

brucellosis 131

cholera 77

pertussis 77

rabies 277 $\frac{3}{4}$ $\frac{1}{2}$

smallpox 77

VARDIE M M 214

- VAILLE C 173
 VANLONKHUIZEN BIRMOND M 215
 VARILA G 216
 VARGAS MENDOZA O 214
 VAUCL M A 152
 VIENTEMILLAS F 213
 VEJNAR P B 217
 VELDEFF M V 74
 VELONO M P 170
 Venereal diseases 50 105
 control in Egypt 119
 role of WHO 279
 demonstration project in India 171
 in Rotterdam 313
 in Eastern Mediterranean 71
 Ecuador 118
 International List of Centres at Ports 105
 Rhine area anti venereal disease com-
 mission 72
 serology conference in India 334
 see also Syphilis Treponematoses
 Venereal Infections and Treponematoses
 Expert Committee on see Expert Com-
 mittee on Venereal Infections and Tre-
 ponematoses
 Venezuela 217
 malaria control 97
 poliomyelitis in 1950 162
 VINKATRAMAN K V 334
 VIRCIC J 133
 VRIJHOEFSTRATE L 16
 Vic Nim 92 193 215 277 319 320
 Views on WHO 31 63 142 174 279
 VINCEY TARDON C 246 335
 Vitamin B₁ 75
 VOCHSANG T 15
 Volv bacillus vaccination in bovine tuber-
 culosis 134
 VOLLENWEIDER P 217
 WAHBI S 215
 WARBURG F 276 307
 WARD D 214 275
 WAWOZROENTOI F K 133
 WEDILL WEDILLSHORP V 306
Weekly Epidemiological Bulletin on sale
 in Eastern Mediterranean 30
Weekly Epidemiological Record 314
 WICMAN M E 16
 WIER P 218
 WELD E M 218
 WERRA J G DE 216
 Western Pacific
 regional committee 319
 Western Pacific (continued)
 regional director 236
 Regional Organization 38
 WEVER A E DE 305
 WHO
 aims and activities 173
 Assistant Director General appointed 139
 bibliographical note on 273
 decentralization plans 3
 evolution and future role 3
 headquarters staff 7
 membership 193 213
 policy planning 8
 regional officers staffing 7
 technical assistance programmes for
 economic development 4
 views on 31 63 142 174 279
 Whooping-cough 109
 mortality figures in Europe 240
 WICKWAR H 262
 WINCAARD P 305
 WILLCOX R R 279
 WILLIAMS C 45
 WILLIAMS C T 213
 WILLIAMS K 336
 WILLIAMS L L 29
 WILLIAMS W 335
 WILSON D B 152
 WINSLOW C E A 195 321
 Winter insecticide test 151
 WOLFE P O 231 306
 World Federation for Mental Health 219
 World Federation of United Nations Asso-
 ciations 219
 World Health Assembly Fifth 194 218 292
 World Health Assembly Fourth 40 42 55
 114 177 257 297
 Committee on Administration Finance
 and Legal Matters 178
 Committee on Programme 178
 list of participants 213
 points from speeches 207
 President of 178 200
 closing address 200
 Special Committee on International Sani-
 tary Regulations 178
 technical discussions 184 287
 Vice Presidents 178
 World Health Assembly Second 125
 World Health Assembly Third 63 319
 World Health Day 92
 World Health Organization see WHO
*World Health Organization Monograph
 Series* 23 27 83 266 321

- World Health Organization Technical Report Series* 73 95 115 129 137 147 157 181 190 231 261 265 324
- World Influenza Centre London 51 109 333
- World Medical Association 114 191 219 225 288
- WRIGHT J W 147
- Yaws control
in Haiti 119 14
Indonesia 67 172 249
South East Asia 46
programmes 177
- Yeo K C 319
- Yellow fever 60 109
definition of endemic zones 227
effectiveness of insecticides 89
international control 54 277
- Yersinia pestis* varieties of 269
- YOE L K 215
- YOSHIDA S 59
- YOUNG SUE KOO 215
- YUAN IC 18
- Yugoslavia 18 78 105 112 218 276 306
brucellosis centre 168
influenza epidemic 57
nutrition 117
institute Zagreb 261
maternal and child health 110
tuberculosis diagnosis and treatment 104
- ZAHAR A R 90
- ZAHIR A 213
- ZARKOVIC G 218
- ZHUKOVA I M 218
- Zoonoses
control 277
international sanitary measures against 134
Joint WHO/FAO Expert Group on 40 132
seminar on 313

ment is being attempted symptoms are masked resistance is created to future measures and the basic factors of disease control become ignored by the public gullible—or desperate—enough to want a speedy cure. Such a situation is obviously contrary to the public interest and it is my wish to draw the attention of the Fifth World Health Assembly to this increasingly serious matter. It may be that control on the part of national health administrations everywhere could ensure that premature publication is not made of future alleged cures so that the public when informed appropriately and at the proper time would have sound faith in any drug announced by its own government as having been proved truly effective. Again it is suggested that advertisements or statements on new wonder and other drugs be limited to scientific journals of the medical and allied professions" ¹

The other problems which Dr Salcedo wished briefly to mention were the following: first the health programmes of WHO can succeed only if collective interest and participation is ensured it is therefore essential to inform the public and to give it an active part to play in these programmes furthermore the interest and support of qualified physicians must be obtained. However physicians prefer to engage in private practice rather than to take part in public health or preventive medical activities for the very simple reason that the latter are very poorly paid and their importance is not always appreciated. Finally the expenses to be borne by governments in the technical assistance programmes are sometimes too high for them.

All these remarks apply in particular to the underdeveloped countries but Dr Salcedo considered his election to the presidency as a sign that WHO wishes to devote increasingly active and enlightened attention to these countries.

The discussions of the Fifth World Health Assembly as will be seen later stressed direct assistance to these countries through priorities for fellowships the lightening of financial burdens and the intensification of efforts for establishing local health services even in the technical discussions the main topic was local health areas and health protection in under developed countries.

Presentation of the Annual Report for 1951

The Director General opened the discussion by presenting his annual report on the work of WHO for 1951 ². He considered the most outstanding fact emerging from the report to be that WHO has now the experience and techniques enabling it to give to each country the precise type of assistance most suitable for raising its health level. The kind of assistance given must naturally correspond to the degree of development the economic resources the customs and civilization of the inhabitants.

¹ Flow g th Pres d t t tem t, th F ish Health A ssembly n trust d the Direct -Cen ral to d ng rs of prem t re p blic ty g d g w drugs t th desi bility f ad pt g m rea t gu d g t he
Off R W Id H H O g 38 See Iso Ch W Id H H O g 195 6 113

The World Health Organization is determined to avoid the mistakes of the past. Too often countries requesting assistance have been the object of well meaning but disastrous attempts to superimpose on the local culture foreign patterns which lacking the necessary foundations are bound to result in friction, misunderstanding and ultimate failure. In health work as in all other fields of technical assistance there can be no question of simply transplanting techniques from one place to another."

The report also brought out the increasing importance given to professional education and training. 665 fellowships were awarded in 1951 and 26 symposia helped in the exchange of scientific information. The two main events of 1951 were the adoption of the International Sanitary Regulations and the publication of the first volume of the *Pharmacopoea Internationalis*. Finally the Director General briefly indicated how the United Nations technical assistance programme could be further improved: first by making full use of the Administrative Committee on Coordination and of the Technical Assistance Board, next, by reducing certain obligations which weigh somewhat too heavily on governments and prevent them from participating in the programmes as much as they would like and finally by giving the maximum help to the so called "underdeveloped" countries in organizing and coordinating their technical assistance work.

Presentation of the Report of the Executive Board

Reporting to the Assembly on the eighth and ninth sessions of the Executive Board which were held under his chairmanship,¹ Professor J. Parisot, Dean of the Medical Faculty of the University of Nancy, said that one of the most important events had been the completion of WHO's regional structure now comprising six regional organizations with their committees and offices. Coordination of international health work had also been considered by the Board as well as various other aspects of the technical assistance programme particularly regarding the supplies to be furnished by the participating countries. Professor Parisot stressed that the Board felt these obligations to be too heavy for many countries and that they should be lightened.

In conclusion he hoped that this great endeavour to attain social and physical well being would be a source of security and peace for the whole of mankind.

General Discussion

The delegates of the following fifteen countries spoke during the discussion: Austria, Ceylon, France, Hashemite Kingdom of the Jordan, India, Iran, Israel, Italy, Japan, Lebanon, Saudi Arabia, Thailand, United Kingdom of Great Britain and Northern Ireland, Viet Nam and Yugoslavia.

¹ Off. Rec. World Hlth Org. 36: 40

In general the activities of WHO during 1951 were warmly praised the delegates recognized the vigour enthusiasm and sustained energy which marked the implementation of projects in the various countries It may be of interest to cite the opinion of Japan which has been a Member of WHO for hardly a year

"The year with this Organization has been most inspiring as well as most fruitful for all of us who are striving hard for the better health of the people in our country The accomplishments that were attained in the field of public health in my country during the year 1951 such as the remarkable decrease in deaths from tuberculosis further prolongation of life expectancy for men and women and the sharp decline in infant mortality might not have resulted without the moral support and spiritual inspiration of this Organization

The delegates observed that the countries of the world were becoming more and more conscious of their right to health and realized that to fight against disease contributed towards overcoming social injustice Two important events for which 1951 was noteworthy were the adoption of the International Sanitary Regulations and the publication of the first volume of the *Pharmacopoea Internationalis* real instruments of international co operation beyond all politics solely intended to promote health all over the world However the essential task of WHO was to progress continuously and regularly always to strike a balance between its activities and its resources and to reject any attempt to make health a political instrument they were glad to note the already apparent signs of WHO's maturity fuller collaboration with the other international agencies a tendency to judicious self-criticism and above all the decentralization of authority

The achievement of decentralization and regional organization was referred to by all the delegates who considered it as a turning point in the history of WHO From now on it is for each nation and each country to establish priorities for the problems to be solved on its territory But the general guiding lines will remain the same the directives will always come from headquarters it will no longer be necessary to define the precise relationship between headquarters and the regional offices and to supervise the general direction taken by the latter The transfer of the work of headquarters to the regional offices can only take place successfully if the regional committees work in close co operation

For this reason several delegates who took part in the general discussion felt that the Health Assemblies should continue to meet every year Their arguments as well as arguments submitted in favour of biennial assemblies are summarized on page 178 under the heading Membership and Organization

Many delegates mentioned the meetings and reports of the expert committees some felt that certain committees were duplicating the work of specialized private or national bodies and that consequently the dissolu

tion of such committees would be an excellent way of economizing others on the contrary stressed the enormous benefits derived from the international conferences of experts convened by WHO and whose reports are published in the *World Health Organization Technical Report Series*. The delegate of Ceylon felt that

The expert committee reports should rank very high in the work of our Organization. Their greatest virtue is that they are the product of a composite group and that we are therefore safeguarded from those individualistic tendencies to which experts are sometimes liable.

Other delegates stressed the importance of the proper choice of experts, the careful preparation of the meetings, and the need to insist that the general lines of the reports be more precise and more practical.

Some of the other points which were commented upon included relations with non governmental organizations, the fellowships programme, the training of auxiliary personnel, material assistance to countries and reducing the expenses incumbent upon governments, international centres, environmental sanitation, the rehabilitation of the physically handicapped, the rehabilitation of lepers and finally, population problems.⁴

Programme and Budget

Continuity in the Organization's activities, co-ordination of those activities with the work of other international and national agencies, concentration of effort on the most pressing problems—these are the principles which have guided the drafting of WHO's programme and budget for 1953. The first of these—continuity—needs no emphasis for the Organization's activities have become an organic whole maintained from year to year with only gradual modification and development. Co-ordination becomes increasingly important with the ever closer co-operation between WHO and numerous other agencies which have responsibilities in health and welfare and finally accumulating experience makes it possible to plan a surer and stronger concentration of effort than ever before.

These words taken from the introduction by the Director General to the volume containing the proposed programme and budget estimates for 1953⁵ indicate the main features of the programme adopted by the Fifth Health Assembly for the coming year.

As in former years this programme includes a certain number of purely international activities.

Epidemiological services

The Organization will draw up from 1953 annual reports on the application of the International Sanitary Regulations adopted by the Fourth Health Assembly and entering into force on 1 October 1952. WHO

⁴ See page 183.

⁵ *Off Rec W H O 39 1*

will assist the countries in adapting their sanitary legislation to the new Regulations and in solving problems and disputes which may result from its application. A report on the rejections, reservations and amendments to the International Sanitary Regulations was adopted by the Fifth Health Assembly. Out of the 89 countries concerned, only 25 presented reservations and only 4 submitted rejections. Out of a total number of 73 reservations, 35 were accepted in a spirit of international conciliation, although they complicate the Regulations. The Fifth Health Assembly requested the Committee on International Quarantine to receive all amendments proposed by governments with the aim of advising the Seventh Health Assembly which will take the necessary decisions. Moreover, the Organization will draw up practical recommendations for the health protection of isolated communities and large scale movements of population for the salubrity of ports and airports and for the control of diseases not dealt with in the Regulations. WHO will continue to circulate epidemiological information to distribute its world telegraphic code (*Codepid*) and to co-ordinate certain researches. In 1953 a special task of the Organization will be to evaluate the results of tests with dried smallpox vaccine and of studies on leprosy, rabies and brucellosis.

Health statistics

WHO is compiling and circulating, as in the past, international morbidity and mortality statistics. Furthermore, the Organization will collect statistics on health personnel and on medical and public health schools. It will continue to study the revision of the *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death*⁶ which must be employed in all countries if it is desired to obtain comparable statistics, a desideratum for international health activities. With this aim, the Organization is assisting governments to establish or improve their health statistics services. This is not an easy task. Indeed, many underdeveloped countries will first have to succeed in registering births and deaths before dealing with morbidity statistics. In other more developed countries, it is found that physicians help very little in drawing up the statistics; medical secrecy is one of the pretexts given by some physicians, but the fact is that they do not sufficiently appreciate the value of health statistics. Consequently, the Fifth Health Assembly called upon Member States to encourage the medical profession to collaborate fully in the reporting of morbidity and causes of death. One of the best methods would be to include in the syllabus of medical studies the part played by health statistics. But whatever the methods applied for the reporting of morbidity and causes of death, medical secrecy should be scrupulously safeguarded.

⁶ World Health Organization (1948) *Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death*, 11th ed., Geneva, 1948.

Therapeutic substances

The Organization will continue to work on biological standardization, with the aid of the National Institute for Medical Research London. WHO's activities in this connexion are increasing with the growing number of new biological preparations, such as antibiotics and hormones. WHO is continuing its work on the *Pharmacopoea Internationalis* and its addenda as well as studies and inquiries in connexion with addiction producing drugs. The Organization is actively directing international studies on BCG. In 1953 these studies will consist mainly of laboratory research, methodical surveys of post vaccinal allergy, and the study of the influence of certain factors on the activity of BCG.

Publications

By means of its documentation services WHO will continue to circulate medical information of international importance.

Communicable disease services

Despite the diversity and extent of these purely international services the main task of WHO as it emerges from the programme adopted by the Fifth Health Assembly, is to give technical assistance to governments in the solution of their health problems and in improving or setting up their health services. Malaria, tuberculosis and the treponematoses are the diseases which without having the same priority as during the first years of the Organization continue to preoccupy governments and to call for the maximum effort. The 1953 programme also provides for work on other communicable diseases such as cholera, yellow fever, plague, typhus, rabies, leprosy, trachoma, poliomyelitis, whooping cough, diphtheria, ankylostomiasis, bilharziasis, filariasis, cerebrospinal meningitis, etc. The number of requests in connexion with these communicable diseases will no doubt continue to increase.

Leprosy, the importance of which was already recognized by the Second and Third World Health Assemblies, will be dealt with more energetically following a request by the Indian delegation. The latter presented to the Assembly a note on the progress made in India during the last two years in the treatment of leprosy, in research on the disease and in the rehabilitation of crippled lepers. Treatment with sulfones and related drugs soon produces clinical improvement and the patient soon ceases to be contagious. Among crippled lepers, new surgical methods such as tendon transplantation and nerve reunion make possible the partial restoration of functional activity; subsequently the patient can be given some occupation for which he is suited. Feeling that work on leprosy had thus reached a stage where WHO might take a more active interest

therein the Indian delegation put forward a resolution by the terms of which the World Health Organization in active collaboration with countries which are working on leprosy should encourage further active programmes so as to promote progress in this field. The proposal of India was adopted with the warm support of the Philippines and of Thailand countries which also have thousands of lepers. An Expert Committee on Leprosy will meet during the year.

With regard to filariasis the Fifth Health Assembly decided that the terms of reference of the Expert Committee on Filariasis should be limited to the study of onchocerciasis and that if funds were made available by the suppression of other expert committees the proposed meeting should be expanded to a conference to which experts from countries in Africa and the Americas affected by onchocerciasis should be invited.

Organization of national public health services

During 1953 WHO will continue to give active aid to the various countries in organizing or improving their public health services. The organization of these services on the local area scale was examined semi-officially during the technical discussions of the Fifth Health Assembly. The governments and WHO are in general tending to stress these problems since only national or local public health service can ensure the permanence of the success achieved by WHO programmes in the various countries and continue the work demonstrated or commenced by the international personnel. Public health administration as well as social and occupational health present serious problems for governments which are endeavouring to find the best method of co-ordinating the various health and medical services. WHO will deal in 1953 with administrative problems to an increasing extent particularly the organization of hospital services and the correlation of therapeutic and preventive services. The Fifth Health Assembly requested the Director General to undertake joint studies with the other international agencies on the relationships between public health medical care and social security and to consider the appointment of an expert committee to study the problems involved in achieving the sound organization of medical care in the different countries.

Environmental sanitation

The WHO programme for 1953 provides for the creation of an Environmental Sanitation Division which has become indispensable for dealing with certain fundamental problems which are of importance in almost all the WHO programmes in the various countries namely municipal sanitation (water supply sewerage systems garbage and waste disposal) rural sanitation (water supplies excreta and sewage disposal individual housing garbage and refuse disposal) housing and town planning control

Therapeutic substances

The Organization will continue to work on biological standardization with the aid of the National Institute for Medical Research London. WHO's activities in this connexion are increasing with the growing number of new biological preparations, such as antibiotics and hormones. WHO is continuing its work on the *Pharmacopoea Internationalis* and its addenda as well as studies and inquiries in connexion with addiction producing drugs. The Organization is actively directing international studies on BCG. In 1953 these studies will consist mainly of laboratory research, methodical surveys of post vaccinal allergy, and the study of the influence of certain factors on the activity of BCG.

Publications

By means of its documentation services WHO will continue to circulate medical information of international importance.

Communicable disease services

Despite the diversity and extent of these purely international services the main task of WHO as it emerges from the programme adopted by the Fifth Health Assembly is to give technical assistance to governments in the solution of their health problems and in improving or setting up their health services. Malaria, tuberculosis and the treponematoses are the diseases which without having the same priority as during the first years of the Organization continue to preoccupy governments and to call for the maximum effort. The 1953 programme also provides for work on other communicable diseases such as cholera, yellow fever, plague, typhus, rabies, leprosy, trachoma, poliomyelitis, whooping cough, diphtheria, ankylostomiasis, bilharziasis, filariasis, cerebrospinal meningitis, etc. The number of requests in connexion with these communicable diseases will no doubt continue to increase.

Leprosy, the importance of which was already recognized by the Second and Third World Health Assemblies, will be dealt with more energetically following a request by the Indian delegation. The latter presented to the Assembly a note on the progress made in India during the last two years in the treatment of leprosy, in research on the disease and in the rehabilitation of crippled lepers. Treatment with sulfones and related drugs soon produces clinical improvement and the patient soon ceases to be contagious. Among crippled lepers, new surgical methods such as tendon transplantation and nerve reunion make possible the partial restoration of functional activity; subsequently the patient can be given some occupation for which he is suited. Feeling that work on leprosy had thus reached a stage where WHO might take a more active interest

However in order to comply with the wishes of delegations which had suggested certain methods of saving money the Assembly requested the Executive Board to examine very carefully the need for convening the various expert committees or for creating fresh committees. While awaiting this study the Assembly decided that the meeting of the Expert Committee on Mental Health which was to have dealt with the mental health of students should not take place and that the expert committees on cholera and rabies should be convened only if the advance in research in these fields warranted it. Moreover to reduce the expenditure caused by the sending of WHO representatives to meetings of other organizations the Assembly requested the Executive Board to study criteria which would make it possible to select those meetings at which the presence of a WHO representative was really necessary.

During the discussions on the expenditure associated with the programme one of the most difficult questions was that of the participation of governments in work carried out in their territory by WHO. Several States pointed out that despite their interest in the WHO projects and despite their wish to benefit therefrom their resources were so meagre that they could not bear all the costs assigned to them. In point of fact by the terms of a resolution of the Fourth Health Assembly governments should *inter alia* pay the salaries of local personnel and pay for offices and other premises for the accommodation of WHO personnel for material obtained within the country for postage and for transport. Certain governments have had great difficulty in meeting these obligations and some of them have even had to stop the work because they were unable to pay. The provision of simple accommodation and means of transport for WHO personnel presents certain underdeveloped countries with an insoluble problem. The Fifth Health Assembly consequently decided to re-examine the question and to abolish if possible the condition according to which governments are required to furnish accommodation and pay subsistence allowances; the other requirements may also be relaxed if necessary. The delegates of Brazil, the Hashemite Kingdom of the Jordan, Iran, Lebanon, Liberia and New Zealand warmly supported this resolution.

As the Director General observed the requests made for WHO's assistance exceed the limits of the programme and budget laid before the Fifth World Health Assembly and the health needs of the people are of course greater still. If the programme is not more ambitious it is firstly because really qualified personnel is everywhere too scarce for a rapid expansion of programmes and secondly because any country has certain limits to its capacity to absorb outside aid—it must be given time to assimilate what it has received and to extract the maximum benefit therefrom.

of insects, rodents and other vectors, milk and food sanitation, environmental aspects of occupational health and various other activities particularly those with regional or worldwide application, e.g., the setting up of uniform methods for analysis of drinking water and uniform minimum standards for purity of water

Education and training

The discussions of the Fifth Health Assembly in connexion with the programme clearly showed that the Member States appreciate to an ever growing extent the importance of professional education and training and understand better and better the assistance which WHO can give them in this field. Even the delegate of one of the most developed countries, the United States of America, recognized that the most serious obstacle to health activities in his country, as elsewhere, was the shortage of qualified personnel. The Health Assembly therefore discussed those categories of health personnel which it is most urgent to train, laying stress on auxiliary personnel, and the question of fellowships: the respective advantages of individual and collective fellowships; the criteria which should govern the selection of Fellows, and, above all, the geographical distribution of the fellowships. Finding that a high proportion of fellowships had been granted to very advanced countries, the delegate of New Zealand proposed that priority for individual fellowships be given to the underdeveloped countries. Other delegates observed that the fellowships granted to the developed countries are just as valuable, since they help in training very specialized scientists or teachers, who can then give instruction in the underdeveloped countries and serve them in this way and since the underdeveloped countries may not have enough candidates capable of benefiting from the fellowships. Another delegate expressed doubt as to the real value of fellowships and the advice of experts, since, according to him, the underdeveloped countries need above all assistance of a practical nature. They should be sent technicians willing to work with the local personnel. The Fifth Health Assembly adopted as a provisional solution the proposal of the New Zealand delegate for the next three years at least, and in the future establishment of professional education and training programmes, the views expressed by the other delegates will be borne in mind.

Budget

The implementation of the WHO programme for 1953 will call for an effective working budget of \$8 489 895—a figure which is \$812 115 higher than the effective working budget for 1952. This figure proposed by the Director General was adopted by the Fifth Health Assembly.

one assembly every two years would be sufficient. The main argument in favour of biennial sessions was that both time and money would be saved. Furthermore the delegates who all hold important positions in their countries would not be obliged to travel so frequently. In addition the regional organization is now sufficiently advanced for more initiative to be entrusted to the regional offices. Moreover several other specialized agencies have already adopted the system of biennial assemblies without any inconvenience resulting.

Those in favour of annual assemblies stressed that the maximum contact must be retained between the various Member States and the Secretariat. Other arguments were: the extra burden of work laid on the Secretariat by the present system is amply compensated for by the advantages resulting from close relations between delegates and the Secretariat during the Assembly; the monetary saving resulting from biennial assemblies is negligible in comparison with the total budget; and finally the first technical discussions have been so successful that it would be regrettable to make them less frequent.

No decision was taken and examination of the question was postponed until next year. However and again for the purpose of saving money the Fifth Health Assembly suggested that future assemblies might be shortened.

This year like every other year the Assembly had to elect six States entitled to designate a person to sit on the Executive Board since the mandate of six members of the Board had expired. The States elected were the following: Brazil, Canada, Denmark, Iran, New Zealand and the United Kingdom of Great Britain and Northern Ireland.

Although the mandate of the Director General should expire in 1953 and it is the responsibility of the Sixth Health Assembly to appoint a new Director General, 40 countries took the step of proposing a draft resolution by the terms of which Dr Brock Chisholm was asked to accept a prolongation of his mandate for a further three years. The Fifth Health Assembly recognizing that the services rendered by Dr Brock Chisholm have greatly contributed to the successful operation of WHO adopted this proposal.

Finally the Fifth Health Assembly applauded the exceptional contribution of 100 000 piastres offered to WHO by the Government of the Kingdom of Laos. The delegate of Laos expressed the hope that his Government would not remain the only one on the list of exceptional contributions.

Membership and Organization

At the moment when the Fifth World Health Assembly met WHO included 80 Members. The applications of three candidates had to be examined: that of the United Kingdom of Libya, which had applied for full membership status, and those of Tunisia and Morocco which wished to take part in the work of WHO in the capacity of Associate Members. The Fifth Health Assembly approved the application of the United Kingdom of Libya and assigned that country to the Eastern Mediterranean Region.

The assignment of Tunisia and Morocco to a WHO region gave rise to prolonged discussion. Three regions came into consideration: Africa, the Eastern Mediterranean and Europe. Assignment to Africa found few supporters. Those delegates who preferred assignment to the Eastern Mediterranean stressed the community of religion, language and customs, as well as the similarity in epidemiological conditions between North Africa and the Eastern Mediterranean basin. They pointed out that Tunisia and Morocco take part in the Meccan Pilgrimage with the other Arab countries. The delegates recommending assignment to the European Region based their arguments on the following considerations:

(1) geographical. Tunisia and Morocco are separated from Central Africa by the thousands of kilometres of the Sahara desert and from the eastern countries by the Libyan desert,

(2) economic. passenger and commercial traffic with Europe is infinitely more intense and thousands of North Africans even go to work in Europe,

(3) health. Tunisia and Morocco have the same health problems as the countries of southern Europe. The same social diseases are found there: malaria, infectious infantile diarrhoea, trachoma, the zoonoses and the rickettsioses.

The latter arguments finally won the day. Tunisia and Morocco (that part under French protectorate) were assigned to Europe, it being clearly understood that Spanish Morocco remains attached to the African Region.

Turkey was provisionally assigned to the European Region at her own request, by reason of the circumstances which prevent the Eastern Mediterranean Regional Committee from meeting under normal conditions. Somaliland was assigned to the Eastern Mediterranean Region and Greenland to the European Region.

The question of the frequency of the assemblies already studied last year by the Fourth Health Assembly and by the Executive Board was re-examined by the Fifth World Health Assembly. Certain delegates remained true to the principle of annual assemblies while others felt that

during meetings of the regional committees. The conclusions of each regional committee should be sent to all the Member States. The technical discussions should commence during the first week of the Assembly.

For the technical discussions during the Sixth Health Assembly the following subjects were suggested:

(1) the relative place of preventive and curative work in health programmes and

(2) comparative studies of different methods of applying health techniques with particular reference to maximum results for least expenditure and to the value of voluntary participation by the people served.⁹

The Executive Board has recommended the following Fifth Health Assembly decided that the technical discussions of the Sixth Health Assembly should be limited to the following: A study of methods of applying modern health techniques of a practical and constructive nature to the most important diseases of the community, (a) tuberculosis, (b) syphilis, (c) the typhoid group of fevers.

AWARD OF THE LÉON BERNARD FOUNDATION PRIZE

During the Assembly the Leon Bernard Foundation Prize was awarded to Professor Charles Edward Amory Winslow (United States of America). The purpose of this prize which consists of a medal and the sum of 1 000 Swiss francs is to reward the author of an important contribution to social medicine in the form of a theoretical work or a practical achievement. The Foundation was established under the auspices of the Health Committee of the League of Nations in memory of one of its most eminent members Professor Leon Bernard.

The President of the Fifth Health Assembly summarized in the following terms the brilliant career of Professor Winslow:

"Born in 1877 this great statesman in the field of public health has devoted his entire professional life to the cause of social medicine. As Anna M. R. Lauder Professor of Public Health at Yale Medical School from 1915 to 1945 his inspired leadership has influenced the entire course of public health and social medicine.

Many awards and honours have been bestowed on Professor Winslow: the Sedgwick Memorial Medal, the highest prize of the American Public Health Association in 1947; the Elizabeth Severance Prentiss Award in Health Education in 1945; the F. Paul Anderson Medal in 1949; the coveted medal given by the American Society of Heating and Ventilating Engineers; the first Lemuel Shattuck Award in 1950 by the Massachusetts Public Health Association on the 100th anniversary of Shattuck's great report.

"In a career so filled with fruitful activity it is difficult to single out more than a few of his notable achievements. Apart from having been Professor of Public Health, Yale Medical School from 1915 to 1945 and now Professor Emeritus, he has been Director of the John B. Pierce Laboratory of Hygiene from 1932 to 1946; author of more than 20 books and 574 articles in scientific journals; editor of the *Journal of Bacteriology* from 1916 to 1944; editor of the *American Journal of Public Health* from

Technical Discussions

The Fifth Health Assembly approved two topics for the technical discussions planned to take place during the session 'The economic value of preventive medicine' and 'The methodology of health protection for local areas'.

The first of these topics did not form the subject of actual discussions but instead two addresses were given, one by Professor C-E A Winslow entitled 'The economic values of preventive medicine' and the other by Mr Gunnar Myrdal Executive Secretary of the Economic Commission for Europe entitled 'Economic aspects of health'.

In order to discuss the methodology of health protection for local areas those taking part, numbering about 120, were divided into five groups. The General Rapporteur for all the groups was Professor James M Mackintosh London School of Hygiene and Tropical Medicine. Each of the groups examined the following points: survey of local health problems, organization of a local health service, function and scope of the local health service, health workers for the local health service, definition of the health centre, and community participation in local health services.

A general report⁸ on the views expressed by the five groups was prepared by the General Rapporteur. The General Chairman of the technical discussions Professor M J Ferreira (Brazil) submitted his conclusions on the technical discussions held this year during a plenary meeting of the Fifth Health Assembly.

It is I think clear that they were a success. We enjoyed them and what is more I think we all learned something from them but we did not always learn the kind of things we expected. Some of us came looking for neat cut and dried solutions which we could write down and take home with us but we learned that they do not exist. And so from our discussions we learn something more valuable namely how to set about finding the solutions that are appropriate to our own country—which has its own history its own geography and its own ways even if it has the same diseases as other countries.

"We found too that we in the underdeveloped countries can learn from the mistakes of the more advanced countries as well as from their successes and that they too can learn from our experiments.

Professor Ferreira also submitted some suggestions for future technical discussions: more time should be devoted to them and above all a more restricted subject should be chosen. As Professor Parisot declared last year the general opinion was that in future subjects much less vast in scope should be chosen for technical discussions so that they could be studied in more detail.

The Fifth Health Assembly decided that technical discussions during future health assemblies should be first prepared by regional discussions.

⁸ For the full text of these two addresses see pages 191 and 203.

struggle we persuaded the members present to adjourn officially that day and to meet again informally as individuals on the morrow. On 6 May this unofficial group made to the League of Nations specific recommendations for the creation of the Health Organization of the League and sowed the first small seed for the foundation of the global health programme which WHO so admirably represents today.

"I therefore prize this award not only for its own supreme significance but because of its associations with René Sand with Jacques Parisot and with Léon Bernard.

That the award comes to me is not due to any merit of my own. I owe it to the two great leaders of American public health William T. Sedgwick and Hermann M. Biggs with whom I had the honour of close association in my youth. Above all I owe it to the fact that I happened to enter the field of public health almost at the beginning of its great development and to grow up step by step with its advancing progress. You have selected me as the symbol of the labours of thousands in this field during the past half century of health officers of engineers of nurses of laboratory workers of statisticians of nutritionists of health educators of students of social medicine. In their name and on their behalf I accept this award."

POPULATION PROBLEMS

WHO intends to participate in the World Population Conference which the United Nations is preparing to hold in 1953 or at the beginning of 1954. In this connexion a member of the Population Division of the United Nations made a statement in January 1952 before the Executive Board on the existing or possible future working relations between the United Nations and WHO in the study of population questions.

Population questions were brought up at the very beginning of the Fifth Health Assembly by the representative of the Food and Agriculture Organization who stressed the urgency and seriousness of the position in certain over populated countries¹⁰. Dr K. Evang the delegate of Norway put forward a resolution inviting the Director General to establish an expert committee to examine and report on the health aspects of this problem. This proposal was supported by the delegates of Ceylon India Mexico the Philippines Sweden and Yugoslavia. According to these delegates the setting up of an expert committee is the best way in which WHO can prepare for the World Population Conference. Above all it is the only way of providing the necessary technical advice for India and other countries where over population is creating a dangerous situation since although the problem is predominantly one of food supplies it is impossible for India to improve her position in this respect quickly enough to nourish the millions of human beings added every year to the population. It may be useful to note the opinion of two countries which are among those most interested in family planning Ceylon and India. Ceylon wishes a judicious

1944 to the present day, and President of the American Public Health Association, the American Society of Heating and Ventilating Engineers and the Society of American Bacteriologists

His international associations in the field of public health date back to 1921 when he was appointed general medical director of the League of Red Cross Societies Geneva. From 1927 to 1930 he served as able Expert Assessor of the Health Committee of the League of Nations. He was a member of the Board of Scientific Directors of the International Health Division of the Rockefeller Foundation from 1929 to 1930.

His monograph *The Cost of Sickness and the Price of Health* recently published by the World Health Organization throws much light on the economic burden of sickness throughout the world and discusses methods of reducing this burden considering the cost of health and the expense which is justified and desirable for the control and the alleviation of preventable disease. Professor Winslow will be the featured speaker at the opening session of the technical discussions on the economic value of preventive medicine.

Professor Winslow in awarding you the Léon Bernard Medal and the sum of 1 000 Swiss francs the World Health Organization pays tribute to you as a true statesman in the field of public health, a great and dearly beloved teacher, a valiant warrior in the cause of better housing, public health education and social medicine.

In reply Professor Winslow said

I can find no adequate words to express the gratitude which I feel for this honour which you have conferred upon me. The Léon Bernard Award is the highest recognition which can come to any labourer in the field of public health proceeding as it does from this great organization which represents the central leadership in health protection and health promotion of the more than three score free and sovereign States which make up the population of the world.

There are several special reasons why this honour is particularly precious to the present recipient.

In the first place I prize this award not only for itself but because it is a special privilege to have my name follow that of René Sand with whom I was intimately associated more than 30 years ago.

Furthermore this honour means more to me because it comes through the recommendation of a committee of which Jacques Parisot is Chairman.

Finally I prize this award because it was established to honour another great Frenchman Léon Bernard worthy successor of Dupré of Leuret of Bretonneau of Gendron de l'Eure in the early nineteenth century of Pasteur and of Calmette in later years.

My personal acquaintance with Bernard goes back for 30 years and I should like to cite one episode of our association which has perhaps some historical significance and is not as far as I am aware anywhere a matter of printed record. The League of Nations was considering the possibility of establishing its Health Section the precursor of the present World Health Organization and a small group of us were asked to make recommendations in regard to the desirability of this step. On 5 May 1921 Bernard of France Buchanan Dame Rachel Crowley and Stegman of England Carozzi and Lutrario of Italy and Sueki of Japan met at 35 rue Vernet to consider the problem. We were faced at the outset of the meeting by a statement from the French Foreign Office that the State Department of the United States of America was opposed to the creation of a new body which might rival the Office International d'Hygiène Publique and the Pan American Sanitary Bureau. This was a staggering blow. Lutrario wanted to adjourn at once. Buchanan proposed postponing action until a new international conference could be called. But Professor Bernard and I who were not governmental representatives did not share the diplomatic fears of our governments. After a long

Points from Speeches

Sir Arcot Mudaliar India

A Minister of State in my own province where malaria control has been undertaken by the World Health Organization was able to announce with great satisfaction that consequent upon these measures malaria mosquitos had been wiped out and malaria was no longer prevalent. The arid desert areas of those villages which had been uncultivated for more than twenty years have borne such rich vegetation that it is a matter of great gratification to us all and people have pursued the matter in other parts of the State. It is in this manner that the World Health Organization acts as a catalytic agent and induces different governments to follow the policies that have been so conclusively vindicated in its programme.

Dr Tran Van Don, Viet Nam

We have realized that to fight illiteracy poverty and disease is to fight social injustice that source of ill health and unrest.

Our medical assistance services were highly developed. Hospitals maternity centres and homes were functioning normally in all our provinces. Preventive measures against malaria for example were admirably carried out by the doctors of the Institut Pasteur whose four establishments at Saigon Hanoi Nhatrang and Dalat continue to help us in the detection of disease and in the control of epidemics. In a large city like Saigon Cholera which has two million inhabitants we have not had a single case of cholera for three years. The reason for this is that we have given the population an abundant supply of safe drinking water and have vaccinated 800 000 persons annually.

Dr S Daengswang, Thailand

The good results of the WHO malaria demonstration area together with the training programme have now made

it possible for the Government to further a countrywide malaria control programme along the same lines as those demonstrated by the WHO team making use of national financial resources and of personnel made available under the generous aid given by the Mutual Security Administration of the United States of America for which we are grateful. The present malaria-control programme aims at the protection of a population in the malaria stricken areas of about 1 200 000 and 2 500 000 in the years 1952 and 1953 respectively.

Dr P Gregoric Yugoslavia

The role of WHO and its help in developing health protection in my country was expressed above all by the rapid rate at which were introduced the achievements of medical science and the experience of other countries. The advance in knowledge and skill of health personnel and in information to the population on the problem of health protection were promoted by various means and through various channels. A new form of introducing the latest developments was to send a number of physicians and other health workers abroad to study and observe the practices and techniques of the health services and the progress of medical science in other countries. Through the World Health Organization a number of experts from other countries have been able to visit Yugoslavia where they offered assistance on the spot in solving certain problems and had a favourable influence upon the views and scientific efforts of our experts. The convening of various international conferences such as the meeting of European sanitary engineers and that of experts on trachoma and the holding of seminars on alcoholism etc have made it possible for our people to meet many foreign experts and to supplement their knowledge and widen their views on various questions.

examination of the problem to be made, but stipulates that the work of the expert committee should be limited to countries suffering from over population and should bear the local conditions in mind, India feels that WHO should study all aspects of the problem over population and under population as well as the nutritional sanitary, economic, and social factors leading in one place to undue fertility and in another to relative sterility. At the suggestion of the Netherlands the delegate of Norway amended the wording of his proposal so as to specify that the expert committee should examine only the medical and medico social aspects of this problem and should include representation of a wide choice of schools of thought.

The opinion of the delegate of Belgium was opposed to that of the delegate of Norway. Together with the delegates of Italy and of Lebanon he proposed a resolution by the terms of which the Assembly resolves that from the purely medical standpoint population problems do not require any particular attention on the part of WHO at the present time. This joint proposal was supported by the delegates of the following countries Austria, Costa Rica, France, Ireland, Japan, Portugal and Spain. Their main arguments are as follows: the problem of over population is a local one which should be dealt with by the government of the country concerned; it is an economic and not a medical problem which should be solved by economic measures; what is required is to increase productivity and not to limit births; family planning would result in ageing of the population and a decrease in productivity, furthermore the duty of physicians is to preserve human life and not to stand in its way; finally if WHO were to deal with these problems it would tacitly recognize the principle according to which the State is authorized to intervene to facilitate family planning, a principle which is not universally recognized. The delegates of Panama and of the United States of America also expressed the fear that WHO might meet with criticism if it took up this problem.

As the majority of the delegates were of the opinion that the question was not ripe for international study the delegate of India put forward a third resolution postponing the discussion until a subsequent session of the Assembly. However it was the delegate of Ceylon who closed the debate by suggesting as did the delegate of Brazil that no vote be taken on any of the three proposals but that the official minutes should merely indicate that the views of all delegates had been noted without a decision being taken. The delegates of Belgium, India and Norway then withdrew their proposals. The delegate of Belgium declared:

The outcome of the debate which has taken place is that we in this committee are agreed that although the problem of over population in certain regions may call for WHO's advice and assistance for the protection of the health of these peoples—advice and assistance already being given—there can be no question of our Organization which is universal and neutral becoming the advocate still less the means of implementing certain economic and social theories which are far from receiving universal approval."

no very spectacular advances towards the goals of WHO but neither have there been any disquieting setbacks " We have never expected WHO to make spectacular progress International action in the field of health particularly when we consider the scope and variety of the tasks laid upon us by our Constitution can only make slow headway Again we should consider it unusual if there had been any kind of setback What we ask is that the Organization should advance smoothly continuously and steadily along the path it has set itself and that the results obtained should as far as possible be in proportion to its financial resources and to the means at its disposal The Director General's report shows that there has been undoubted success in that respect and the French delegation wishes at once to express its satisfaction

Dr L. A. Schuele United States of America

The action—yes the very existence—of the World Health Organization has set off a movement for worldwide health improvement It has given structure and consistency to that reverence for human life which has painfully spread during past centuries despite too frequent relapses into barbarism Nations have been stimulated

to improve their own health services and have learned how best to utilize their own means to this end The action of the World Health Organization has been strengthened by technical assistance and other funds Several nations have taken the initiative to help others through direct technical assistance in the health field Many non-governmental organizations are doing their share in special health fields The results are already amazing although they represent only a small demonstration of what can eventually be achieved especially if all groups co-operate

Sir John Charles United Kingdom of Great Britain and Northern Ireland

In the temporal measurements of the Romans WHO has reached the end of its first half decade its "lustrum" It has achieved much in those five years It can achieve even more in the future if its purposes are concentrated and its efforts not unduly dispersed If it is animated by that same imaginative conception of international co-operation if good will and good works continue to be the essence of that co-operation the world can look forward to better health and the Organization to greater triumphs



Dr M Yamaguchi, Japan

my Government readily received WHO fellowship holders from our fellow countries in the region and now seven public health officers are with us from the Republic of China receiving training courses in Tokyo. The invitation was also sent by my Government to the World Health Organization for the health statistics seminar for the region to be held in August and September 1952 in Tokyo. Insecticide products are offered to help other countries in carrying out their health programmes.

These steps were taken because my Government believes in the ideal of the World Health Organization wisely expressed in its Constitution.

Dr J N Togba, Liberia

When the proposal [to grant fellowships in preference to underdeveloped countries] was first made some of us who spoke did so in terms of an appeal to the countries known and regarded as developed countries to grant what you may call a privilege to the underprivileged or underdeveloped peoples of the different parts of the world. We thank them for having accepted this particular resolution and I still on behalf of those who are from the underdeveloped countries appeal to those of you who are from the so-called well developed and advanced countries. This resolution does not imply that you will be completely deprived of fellowships but simply that if the question should arise as to who should be given the preference the answer would be what I am quite sure you yourselves would say. Give the chance to those who have the least and need it most. On that basis ladies and gentlemen I again appeal to you to consider this proposal favourably.

Dr R Pharaon, Saudi Arabia

At the Fourth World Health Assembly my delegation undertook on behalf of its Government to have a modern sanitary station set up at the port of Jeddah

before the end of 1952. I am happy to announce that this promise has been kept and that the Jeddah station will be able if called upon to do so to meet any emergency during this year's Pilgrimage season that is to say towards the end of August.

Dr P Noach, Israel

During the last year we had in Israel—as is mentioned in the Annual Report of the Director General—a most encouraging example of international co-operation in the field of public health. A teaching mission composed of outstanding scientists from the United States of America, the United Kingdom of Great Britain and Northern Ireland, Norway, Sweden and Denmark came to Israel and stayed there for one to two months teaching, demonstrating, advising, lecturing and discussing our health problems in the light of their great experience. This was a fine example of peaceful co-operation among nations and my Government wishes to express once more its deepest appreciation and thanks to all the participants in this mission and to its staff from the World Health Organization as well as to the Unitarian Service Committee and its representative. The visit was a tremendous event in the medical history of my country and we are still busy evaluating all the precious advice and suggestions we received from its members.

Dr D Boidé, France

The Annual Report of the Director General gives us a statement of the work accomplished by the Organization during its third full year of activity. Today we judge its work no longer on a basis of promises but of facts as time goes on the part we must take on trust diminishes and our examination can be based on the concrete results which may legitimately be expected of a technical and administrative organization which has been put to the test.

The Director General is both too ambitious and too modest when he states in his introduction that there have been

II

TECHNICAL DISCUSSIONS AT THE FIFTH WORLD HEALTH ASSEMBLY

THE ECONOMIC VALUES OF PREVENTIVE MEDICINE

C E A WINSLOW Dr PH

I deeply appreciate the honour of addressing this distinguished Assembly and it has been a rare privilege to co operate during the past year with the staff of the World Health Organization in the study of the problem assigned to me for this evening

Economic values do not provide the only—or even the primary—inspiration for the worldwide campaign for public health You are animated in your labours by what Matthew Arnold described as the love of our neighbour the impulses toward action help and beneficence the human desire for reducing human error clearing human confusion and diminishing human misery the noble aspiration to leave the world better and happier than we found it It is men and women who are fundamentally of importance not dollars

Yet you and I are not contemplating visions in ivory towers We are working day by day in a tough and practical world We can realize our dreams only in so far as we can convince our governments and the free peoples who control these governments that our goals can actually be attained and that their attainment will not put new strains on already strained economies The evolution of public health programmes in the United States of America has been markedly accelerated by the slogan coined by Hermann M Biggs thirty years ago Public health is purchasable within natural limitations a community can determine its own death rate Our experience during the last three decades has demonstrated that the investment is a profitable one

Concrete and specific evidence as to the economic burden imposed by preventable disease has been placed in your hands as source material for the technical discussions of this Fifth World Assembly¹¹

The first and most obvious measure of the crippling effect of sickness on society is its influence on the length of human life It has been computed that while a death at 15 years or under represents a net economic loss to society a death at the age of 40 represents a net economic gain and a death at 65 years represents a net economic gain more than twice as great

It certainly is a cause for grave uneasiness that while the life span in north western Europe North America Australia and New Zealand (the so called developed areas comprising one fifth of the population of the globe) had a few years ago an average life expectancy of 63 years another group of underdeveloped areas including nearly two thirds of the

Such results as this have a direct and important influence on industrial and agricultural programmes. It was recently reported at a Harvard conference on tropical hygiene that a malaria control programme carried out jointly by a company operating in Saudi Arabia and the national government reduced the incidence of malaria among the company's employees from 2 000 cases a year to 53. The programme of DDT dusting cost \$45 000 and the saving in medical and hospital care provided amounted to \$152 000 in 1950 for the company alone. A large fruit company states that malaria control has effected a saving of \$1 000 000 a year in its hospital costs and has halved the costs of housing since it used to be necessary to build for 500 labourers in order to have 250 working the next morning.

From the standpoint of community psychology the World Health Organization has been wise in choosing for major emphasis during the past two years simple and efficient procedures such as spraying with DDT, immunization with BCG and treatment of syphilis and yaws with penicillin which make it possible to obtain dramatic and immediate results at a minimum cost. It must always be remembered however that such intensive campaigns conducted against individual diseases for a short period of time are in themselves demonstrations and not basic public health programmes. If they are not followed up, mosquitos will breed again, new generations of children will grow up with no resistance to tuberculosis and treponemes will return to the attack. This is why therefore the Fourth World Health Assembly decided to initiate the consideration of the problems of health administration as a basic objective of the technical discussions for 1952. There has been placed in your hands the admirable report of the WHO Expert Committee on Public Health Administration¹ prepared under the chairmanship of Dr. Karl Evang last December which translates the broad principles which we discuss this evening into the complex field of practical administration. This expert committee has wisely pointed out that

"Modern public health has been developed during the last hundred years from primarily a legislative and police function to an applied science which constitutes an important and integral part of social and economic evolution. The techniques used in health administration have consequently been changed to emphasize positive measures in planning and organizing the modern health services on a community basis in order to create a healthy environment for the people.

We must meet health emergencies as they arise but we must do so in such a way as to promote gradual progress toward the ultimate ideal of a soundly conceived and adequately supported permanent public health service in every area of the habitable globe.

Such a programme should be broadly planned for a period of 5 or 10 years ahead with the ultimate goal of including not only the prevention

world population had a life expectancy of only 30 years. This simple fact emphasizes in dramatic terms the major problem of the human race today. At the time of the American Civil War of 1861-5, it was said that this country could not continue to exist half slave and half free. Nor can the one world of tomorrow continue to exist half rich and half poor.

The burden of premature death which we have been considering is furthermore, only a part of the problem. Morbidity takes an even greater toll of our economic resources than does premature mortality. In countries with a short life span, the major factors in morbidity and mortality are of a kind that should lend themselves quite readily to control. It has been reported that in Southern Rhodesia the loss of man power due to malaria amounts to from 5% to 10% of the total labour force, with its heaviest incidence precisely at the peak period of agricultural production. In India it has been computed that malaria produces an economic loss of about \$28 000 000 a year. In Egypt bilharziasis cost nearly \$7,000 000 a year. Dr R. G. Padua reported in your discussions a year ago that in the Philippines one person in 10 suffers from malaria each year, while one person in 15 suffers each year from tuberculosis. The economic losses due to these two diseases alone are estimated at \$33 a year for every person in the population.

A major part of this heavy burden of disease can—as you and I well know—be readily lifted from the shoulders of the human race, and we have no lack of factual experience at our disposal to prove what can be accomplished to demonstrate its economic value. In the case of the mosquito borne diseases the economic returns due to control measures are of course particularly striking. The dramatic elimination of *Anopheles gambiae* from Brazil and from Egypt is familiar to us all. In Peru, DDT spraying in highly malarious areas reduced parasite indices to less than 2% of their former values and it was estimated that extension of this programme to the whole country at a cost of \$1 400 000 would reduce the malaria bill by \$27 000 000. In the Philippines malaria control reduced school absenteeism from 40% or 50% daily to 3% and industrial absenteeism from 35% to less than 4%.

In Ceylon the use of DDT was introduced in 1947 at a cost of about \$0.22 per capita in the area treated. The death rate from all causes varied from 20 to 24 per 1 000 population. In the three years after the malaria programme was introduced the death rate from all causes fell to 12.14 per 1 000 representing a saving of 50 000 lives a year. A labour absenteeism of from 25% to 35% in the Transvaal, Natal and Rhodesia was reduced to less than one tenth of that amount and regions of major agricultural and industrial importance have been opened up for active and fruitful development. In Haiti a WHO/UNICEF programme for the treatment of yaws has returned 100 000 incapacitated persons to work and has increased national production by \$5 000 000 a year.

may be only of the grade of orderlies of sanitary inspectors or of practical nurses (under the direction of fully trained supervisors) but the principle remains that these three fields of service must somehow be represented. Behind these first line troops at the local or provincial or national level there must be provided the staff services of the dentist the veterinarian the hospital administrator the laboratory worker the statistician the nutritionist the experts in maternal and child health in mental hygiene in housing in occupational hygiene on tuberculosis and treponematoses and the like.

In order that the programme in a given area be sound it must be planned to meet the needs of a particular locale and it must be administered with the special skills which come from training and experience. Efficient public health service depends primarily on administrators. Actual studies of the daily routine of the health officer have shown that a very large proportion of his time is spent in dealing with problems which have no relation to the practice of medicine but which call for organizing ability and skill in applying the principles of mental hygiene to the difficult task of fostering co operative effort.

The Expert Committee on Public Health Administration has pointed out that in the United States of America promising experiments have been made in relieving the over burdened medical health officer by the use of specially trained but non medical health administrators. These are university graduates with basic college training in the arts and sciences who after a year's instruction in a school of public health are prepared to serve as administrative assistants to the health officer or as his deputies in charge of the work in a local area.

There is still one other point which is of vital importance in our planning for the future.

Public health like government must in the words of Theodore Parker be of all the people and by all the people as well as for all the people. Health programmes can only be truly effective with the understanding the support and the participation of the citizens. This is where the health educator comes into the picture. Today the good health educator is no longer merely an expert at selling a finished product of expert thinking. He or she is far more concerned in working directly with the people themselves as represented by their leaders in educating from them intelligent co operation in planning the programme itself so that it becomes their programme and not something imposed upon them from above. Only in this way can the programme be soundly planned and firmly supported. In this difficult task of bridging the gap between expert knowledge and local mores the psychologist and cultural anthropologist are coming to play an increasingly effective role.

All this sounds relatively simple as presented from the speaker's rostrum at a World Health Assembly. I know quite well how many are the

of mass epidemics of malaria, tuberculosis and syphilis, and not only the institutional and domiciliary care of disease but the positive promotion of health—physical and mental—in the widest sense. Within such a programme there should be established a series of tentative priorities. In countries where the control of communicable diseases has been effectively accomplished the primary objective for the coming decade may be the cure and rehabilitation of an ageing population and the promotion of an effective programme of improving mental hygiene. In other countries control of malaria, tuberculosis, and syphilis may be a major objective for many years to come. In Liberia where there is one physician to every 63 000 inhabitants, one nurse to each 61 000 and one hospital bed to each 4 000 where nearly a third of the population is infected with malaria, the limited financial resources (about \$0.16 per capita) are perforce being devoted largely to the immediate provision of basic clinic and hospital care.

When the stage of progress has been reached where the public health machinery is beginning to operate effectively in the control of mass epidemics the programme must be expanded to include the promotion of maternal and child health (as in a province of Mexico where the training and supervision of midwives led to a reduction of infant mortality rates from 223 to 112 per 1 000 live births) to nutrition (as in Newfoundland where enrichment of flour was associated with a reduction of 25% in the tuberculosis rate and of 40% in the infant mortality rate or in Batavia province, where enrichment of rice reduced the beriberi death rate from 263 to 28 per 100 000) to housing so grossly neglected in most countries of the world to occupational hygiene which becomes day by day a more and more urgent problem with the extension of the Industrial Revolution to new areas of the Far East and above all, to the complex problems of mental hygiene which only now at long last are beginning to receive the attention they deserve.

The discussions to which you will devote yourselves during the next two days will be wisely directed primarily at the desirable organization of the local health unit which serves a specific population group in a particular area. Federal and State or provincial health organization differ widely under different political systems, but when one gets down to the people in a given city or district the problems of local organization are less dissimilar. In a congested district of London or in an agricultural area of Pakistan there must be represented at least three of the various professional groups of which the super profession of public health is composed. Of course there must be a physician in charge of the medical aspects of the work. There must be an engineer competent to deal with the problems of the environment. And there must be a public health nurse as the effective link in bringing the programme to the ultimate consumer the family—whether that family lives in the jungle or in a city tenement. In the less prosperous areas of underdeveloped countries the actual field workers

preventable disease it is difficult to see how one can seriously question the importance of the contribution of public health to global prosperity

The control of malaria in Sardinia has made possible a plan now under way for settling 1 000 000 Italians from the overcrowded mainland on that island. Until now malaria has been the only barrier to fruitful agricultural development.

A most suggestive experience is that acquired in the building of the Pan American Highway through Central America. Undernourished workers had produced most unsatisfactory results. Provision of an adequate diet for these workers more than doubled the day's work performance. In the opinion of the bureau in charge the dietary deficiencies of the local population were not due to the lack of capacity of the area to produce food but rather to the lack of transport necessary to make food production profitable. Thus food makes possible the building of roads and the building of roads makes possible the production of more food.

The experience of the Pan American Highway does however emphasize the vital interrelationships between health and social problems. The public health programme cannot be intelligently planned in a vacuum but only as a vital part of a broader programme of social reconstruction. In a particular area higher crop yields increased industrial development or improved transport facilities may accomplish as much for health as more clinics and hospitals. A commentator on the excellent Egyptian demonstrations of co-ordinated health social and educational programmes has said the entire success of any public health programme is dependent on the concurrent and integrated approach to the social educational and economic problems within the area.

The Expert Committee on Public Health Administration has presented the following impressive list of social services which contribute to the success of the health programme: social welfare social security measures education food production and distribution reservation of land veterinary services labour standards recreation transport and communications youth movements irrigation environmental and personal cleansing services conservation of natural resources and population and family planning. This is why WHO has worked in the closest and most intimate contact with the United Nations and its co-operating bodies.

In certain countries it is obvious that the pressure of population is so great as to call for the supplementation of such positive and constructive measures as those which we have discussed by efforts to limit excessive rates of population increase. The Population Reference Bureau has listed 13 areas in South East Asia in the Pacific Islands and in the Near East where such excessive birth rates exist. Where limitation of population increase is a pressing problem however there are more humane agents of control than malaria and tuberculosis. Japan has effected substantial reductions in its birth rate in recent years. India has within the past year

obstacles to be overcome. I understand the difficulties which face health leaders in countries where there is available one physician for every 25 000 or 50 000 inhabitants, or one hospital bed for 1,000 to 10,000 inhabitants, no sanitary engineers, and no health educators. I realize how difficult it is to obtain funds for the most limited health services in countries where the mean per capita income is less than \$50¹³.

I am certain that in many areas progress must be slow, yet, if it is sound and if it is rooted in popular understanding and participation I believe that it should be possible to make steady and continuous advance. I would urge that with the expert counsel of the World Health Organization the health leaders of those countries which are still near the beginning of the long road should keep careful records of the cost of their health programmes and of the actual results attained, and make estimates of the economic gains corresponding to the decreases recorded in mortality and morbidity. A tacit agreement with the fiscal authorities that a sum equal to one half of such economic gains be appropriated for the further expansion of the public health programme might probably yield all the funds which could be wisely used in making the next needed advances.¹

In planning our health programme we sometimes meet a real challenge as to the essential desirability of the goals we seek to attain. Certain population experts tell us that there are already too many people in the world and that such successful health programmes as that carried out in Ceylon (which has led to an increase of 2 000 000 in the population) will increase and not decrease the sum of human misery.

This argument appears to me to be a fallacious one, because it is founded on the assumption of some basic law which limits the possibilities of economic development to those which have at the moment been realized.

This assumption appears to be unjustified. The students of agriculture paint for us a wholly different picture. Irrigation, control of erosion, the use of fertilizers, eradication of plant diseases, improvements in the type of animals and plants to be cultivated and more efficient methods of food storage present enormous possibilities of increasing food production. The experts in FAO have set target goals which contemplate an increase of 90% in the food calorie yield of the less developed areas by the year 1960, an increase which could not only provide for probable increases in the population but also for a substantial improvement in standards of living.

In many countries the development of mineral resources, of timber production, and of local industries could make possible the purchase of food from more purely agricultural areas.

When we consider on the one hand the present wastage of the fruits of human effort in the rearing of children who will die before they are able to make any economic return to society and in the support by those adults who remain in good health of a large proportion of invalids crippled by

¹ Per annum — En

By 1950 the programme of technical assistance was well launched and you are all aware of the notable role played in its development by WHO

We have made substantial progress along the road of technical assistance in the sense of training personnel and providing expert counsel for the attack upon health and social problems in many areas of the world I believe however that much more concerted action is necessary in those phases of the programme which involve the fostering of capital investment in areas needing development The installation of water supplies or irrigation works and the development of transport systems or of local sources of power need capital which the countries concerned cannot at the moment supply but which would yield ample income on the investment required The needed funds may be—and in some cases have been—provided by private industrial corporations In other instances they have been supplied by some friendly government Both these plans have their inherent dangers Multilateral arrangements in which WHO or some other organization affiliated with the United Nations is the actual agent of distribution are preferable to either Most suitable of all perhaps would be the creation of special regional boards established under the aegis of appropriate international bodies but with a high degree of autonomy in the actual conduct of the work In my judgement the Tennessee Valley Authority (TVA) in the USA has made one of the major contributions to social planning of the past quarter century This Authority is a quasi public quasi private corporation whose members are appointed by the government but once appointed are entirely autonomous having on the one hand no temptation to yield to political pressures and on the other hand no temptation to accumulate profits for anyone except the populations served A world TVA would of course be a fantastic thought but a series of regional TVA's set up for the purpose of attaining specific ends under the general auspices of the United Nations might provide an ideal type of organization

Technical assistance is not a relief project for feeding starving millions nor is it a vision of a new world which would reorganize national economy overnight and impose upon any peoples an alien way of life It is a programme of pump priming of helping people to help themselves with major possibilities of improvement in total world economy as a result The need for such a programme is obvious and the sands of time are running out so fast that we cannot much longer safely delay large scale constructive action

There are times when the future of this world of ours seems rather grim and voices of discouragement and despair are heard in many quarters of the globe Since the days of the cave man however this earth has never been a Garden of Eden but rather a Valley of Decision which calls for all the toughness and the resilience which the human race has at its disposal As H. G. Wells said in his great parable *The food of the gods* This earth

asked WHO for expert counsel on methods of limitation of reproductive rates of a character suitable to the mores of the people

It is the belief of the speaker that improvement in health and prosperity may in itself tend to promote a better balance of population. In north west Europe and in North America—the areas with highest economic status and lowest mortality—the annual excess of births over deaths is between 4 and 6 per 1,000 population. This figure rises to 15 for the Near East and to 20 for Latin America. How far certain countries are rich because their population grows slowly and how far their populations grow slowly because they are prosperous is not easy to assess but the general relation is clear.

The building of a prosperous and a stable world depends on intimate collaboration between experts on public health, on agriculture, on engineering, on industry, on economics and on sociology. It also demands a co-operation between governments and peoples, which is even more difficult to attain. The world cannot be saved by any one country alone, but only by the joint efforts of all our national sovereignties, from Afghanistan to Yugoslavia. Recognition of our common responsibility is the essential condition for survival. As Benjamin Franklin said in connexion with federal union of the American colonies into a single State, we must indeed all hang together or most assuredly, we shall all hang separately. Yet the fact that the salvation of our separate national units is interdependent is not the real heart of the problem. Governments are after all only instruments for the welfare of human beings. The ultimate ideals of our policies must be based on a more fundamental factor, a deeper realization of the brotherhood of man—on the precious value of the individual human being. It is the recognition of this value which is the real basis of the philosophy of free and democratic peoples.

In the Charter of the United Nations, certainly one of the most important political documents in the history of the human race, the member nations pledged themselves to co-operate in solving international problems of an economic, cultural, social or humanitarian character and in the promotion of higher standards of living, full employment and conditions of economic and social progress. As early as 1946 the General Assembly of the United Nations empowered the Secretary General, in co-operation with the specialized agencies, to implement this policy and in this way the technical assistance programme had its real beginning. In January 1949 the President of the United States of America gave his support to this ideal and said:

"We must embark on a bold new programme for making the benefits of our scientific advances and industrial progress available for improvement and growth of underdeveloped areas. We should make available to peace-loving peoples the benefits of our state of technical knowledge in order to help them realize their aspirations for a better life. And in co-operation with other nations we should foster capital investment in areas needing development."

kind of converse of the second law of thermodynamics equally irreversible but contrary in tendency. Of course this is no guarantee of what is going to happen to the United States of America or to Indonesia in 1952. In the history of biology many organisms and many societies have failed. We may fail in the short term but the factual process of evolution gives us a solid ground for faith in the ultimate result and we may be reasonably sure from the history of evolution that the societies which survive will be the ones that can change to meet new conditions and that those which crystallize their philosophies and their societies in any fixed dogmatic form are eventually doomed. The dinosaurs were large and powerful but the dinosaurs are dead.

Remember too that this process of evolution is not limited to the areas of physiology alone. Its laws also govern progress in the psychological field. My colleague at Yale Professor E. W. Sinnott in his little book *Cell and psyche* has said: "This universe comes to flower not in atoms or galaxies but in poets and philosophers in scientists and saints." Professor Sinnott adds:

It is a lofty conception I think to regard the soaring spirit of man which creates beauty, strives for knowledge and aspires to an understanding of the mysteries of the universe as rooted in the same vital processes which fashion his limbs and time the beating of his heart to look upon the inspiration which welled up in Shakespeare's mind as he wrote *Hamlet* or in Beethoven's to find expression in the *Ninth Symphony* or the imagination which pictured the *Last Supper* to Leonardo before he transferred it to the chapel wall or the vision of St. Francis in the Portiuncula as but loftier expressions of that same creative urgency that stirs in protoplasm everywhere. By means which still elude us but are the goal equally of the biologist, the poet and the philosopher are born those yearnings which make man the noble animal he is. Living things are suckers and creators and striving for goals is the essence of all life but in man these goals have risen to heights before undreamed of and he can set them even higher at his will. Man's feet are planted in the dust but he lifts his face to the stars.

I have cited for the most part western leaders of thought because I happen to be a westerner. I do not however forget the art and the philosophy of India and China and Persia or the fact that all the greatest and most influential religions which have inspired mankind have had their birth in the Far East and the Near East. Albert Schweitzer found the key to his great doctrine of "Reverence for Life" on an African river and according to his biographer: *Africa is the symbol of his life*.

On the higher as well as on the lower levels of evolution it is the development of more and more complex interdependent wholes which is basic. We know that it is not the constituents of living things but rather the relation between them which are significant. Organization is a problem of relationships: biological organization and our desires and purposes. The highest phenomena of our spiritual and mental life are manifestations of the same underlying process. Body and mind are aspects of the same basic phenomenon and the goal of the organizing process is wider and

is no resting place this earth is no playing place We fight not for our selves but for growth growth that goes on forever Tomorrow whether we live or die, growth will conquer through us That is the law of the spirit for ever more

I believe that the historian of the year 2000 will look back to the mid Twentieth Century as the date of certain outstanding milestones in the history of the human race Whatever happens to you and me during the next few decades, steps have been taken which mark significant heights in the slow upward climb of mankind from the jungle to a sane and solid global society One of the most important of these milestones is the adoption of the principle of technical assistance which recognized the brotherhood of man in the common task of warfare against disease, poverty, and ignorance throughout the world

These great ideals of peace and of prosperity for all the children of men will not be realized readily or soon In their ultimate triumph you and I have good ground for hope I say you and I because all the members of WHO are working in an area of applied biology Medicine nursing mental hygiene nutrition parasitology, even sanitary engineering as compared to other aspects of engineering, are rooted in biology I can well understand how the physicist faced in the second law of thermodynamics, with the picture of a universe running down inexorably into the form of low grade and uniform heat energy, or the economist of an older school who accepted Lassalle's iron law of wages must be either a pessimist or an escapist seeking comfort in a dualism which balances a hopeless material universe by an unreal and separated world of subjective imagination

But the biologist has in his science facts which do not contradict the laws of thermodynamics but rather supplement them and wholly reverse their philosophical implications The facts of biological evolution are as valid as the facts of physics We know with certainty that once in the formation of the globe there were only energy and inorganic elements and that somehow organic matter came to be We know that from this organic matter some form of the life process was evolved We know that in some fashion cells were formed—that in the border area between sea and land these cells developed into organisms Some of these organisms moved to the land and became more and more complex in form Some where in the jungles of prehistoric days primitive man came into being

Then as anthropology and history teach us the same process proceeded on a social plane Tribal organizations came into being nations were born and the task we now have before us—the building of a true world order—is the next and final step (until we penetrate interstellar space) in the same great cosmic process This process gives us ample ground for confidence in the future based just as truly as the viewpoint of the physicist on natural law but on a different law Joseph Needham the distinguished English biochemist has said that the law of evolution is a

ECONOMIC ASPECTS OF HEALTH

GUNNAR MYRDAL

I appreciate very much the honour of being asked as an economist and social scientist to contribute my views to this evening's discussion on the economic value of health. I have read with great interest and real appreciation the paper before the house Professor Winslow's useful and timely book *The cost of sickness and the price of health* and I have listened with attention to his speech to us tonight.

Perhaps I may by way of introduction present a general excuse on behalf of my own profession which may also serve as an explanation of why in the social sciences generally and economics particularly these very important questions the economic value of health and the price of health have been given comparatively little thought. Economics as a science has had from its very inception a strong materialistic bias and there were some good reasons why it was once challenged as the dismal science.

Economics has mainly been a study concerned with the remunerations in terms of money of the factors of production in various technical combinations and with the prices of commodities and services which are commonly bought and sold in the market.

By capital economists have meant material capital. It is true that for a couple of generations economists of a more philosophical bent of mind have been eager to recognize the existence of personal capital. But our very large literature on capital depreciation and interest has never taken this admission very seriously.

Consumption has been in juxtaposition to production and the assertion that there is also a productive consumption has remained a sort of general qualification limiting in an undefined way the bearing of our conclusions but never really taken as a challenge for serious study. Thus the money paid for repair and maintenance of a house or a machine has entered under the heading cost items into all calculations of the relevant economic quantities in economic analysis e.g. national income. The cost of preventing or curing disease however has never been so considered. This practice has prevailed in spite of the fact that even in the most developed countries those with the greatest accumulation of capital wealth the contribution of human labour to the national product and its imputed distributional share in national income account for two thirds or even more of the total.

In the same way the public finances of the State and the municipalities were originally looked upon as "unproductive" expenditure for collective

wider co-ordinated wholes. This is the essential principle which has transformed protein to cells, cells to organisms, organisms to man, and man to society. It is the same principle on a higher plane, which can help us to create a new world order.

Matthew Arnold once spoke of 'the power not ourselves which makes for righteousness' but this is too limited a phrase. For me, there is a power in ourselves as well as outside ourselves, a power in the universe which makes for righteousness. It is this power which we invoke, it is on this power that we can base our hopes of building a better world for all mankind.

But their problems compared to those of the underdeveloped countries are neither of the same magnitude nor of the same crucial importance for the fate of the world. The great problem of health in the world today is the one which is facing the majority of countries commonly called underdeveloped and the great majority of human beings who live there and are eking out a miserable existence is a social setting where their work is unproductive their food scarce their housing inadequate their life span short and their health bad or in constant danger.

In his book Professor Winslow points to the fact that poverty and disease form a vicious circle. People are sick because they are poor they become poorer because they are sick and sicker because they are poorer. There is a cumulative process in operation continuously pressing levels downwards where one negative factor is at the same time both cause and effect of all the other negative factors.

The general relationship between poverty and disease is illustrated by all health indices. Thus the life expectancy at birth in the small part of the world which can be characterized as developed is more than double that in the much larger part of the world which is underdeveloped. Infant mortality has as we all know in countries with a high standard of living been brought down to a mere fraction of that in underdeveloped countries. And as we all also know we have a similar even if ordinarily smaller difference in health standards between the poor people in the developed countries and the better situated social classes in these same countries. But in the underdeveloped countries large sections sometimes even the majority of the population are plagued by illnesses which are now entirely or almost entirely stamped out in more fortunate nations.

Some years ago I was entrusted with a comprehensive study of social conditions in one of the highly developed countries the United States of America from the special angle of the most disadvantaged group in that society the negro people. I had occasion then to enter rather deeply into what I called the theory of the vicious circle or more learnedly of cumulative social causation. This theory in its simplest terms concerns the reciprocal effects of all social factors the tendency for example of negative elements in a given situation to strengthen each other. I pointed out that this principle had a much wider application in social relations than the particular problem I was studying and that the principle of cumulative causation should be developed into a main theoretical tool in studying social change. Actually I made this method of looking upon social reality basic to my whole approach to the problem I was investigating and I devoted a methodological appendix in my book¹¹ on the negro problem in America to clarifying and formulating it.

consumption. Therefore the doctrine was early expounded that the best system of taxation was the lowest taxation. This is, of course, no longer the prevalent theory. But nevertheless comparatively little effort is still given to ascertaining by scientific analysis the productivity of various public expenditures for instance those incurred in preserving and raising the level of health in a community.

I believe that I am not wrong in stating that there is still a heavy legacy of this materialistic bias in economic thinking which becomes the more important because the economists and their intellectual exertions have, for a long time, come to have a much greater direct influence on the formation of national and international policies than the thought products of all the other social sciences put together. The scientific study of the economics of sickness and health was, in any case, started primarily not by the economists but by public health officers, physicians, and social welfare experts who were in direct contact with the practical problem and it has only gradually been brought into the focus of the social scientists. We must face the fact that it will take a very long time before our knowledge in this field has become so intensive and complete that it can be properly integrated into and given its due place in, economics and social theory generally.

One additional reason for this is, of course, that the quantitative relations themselves in this field are so much more difficult to pin down and ascertain in an unequivocal manner than, say, market prices, rates of interest, wages, capital values, capital depreciation and other quantities commonly employed in economic reasoning. There is no easily determinable money value of a healthy human being as there is of a house or a machine. The difficulty of defining the quantities and measuring them properly for exact analysis is however not only due to the absence of a market in the sense of economic theory but has deeper and more fundamental reasons to which I will come shortly.

I am sure I will be excused if in this lecture I lay the main stress on the health problem as it presents itself in the so called underdeveloped countries. These countries are generally speaking just as far and perhaps even farther behind the developed countries in their health programmes as they are in economic and social development generally.

Certainly much is left to be done in the health field even in the highly developed countries. This is clearly demonstrated by the greater frequency of all sorts of diseases and the higher mortality and disability rates prevalent in the lower income classes and regions within those countries. As we all know but sometimes tend to forget there are in many of these richer countries large rural and urban areas which do not deserve any other characterization than slums. And certainly these countries also have other economic problems connected with their health work to solve besides those connected with the existence of poverty.

living of the negro people in the USA including their health standards. This constitutes a rather sharp break in the situation of relative stagnation which for more than two generations had ruled after the Civil War and Reconstruction Period. It was at the end of this period of relative stagnation that I made my study and the picture which emerged was one of real distress poverty disease illiteracy and in large sections of the negro people utter hopelessness. It was at that same time that Franklin Roosevelt declared the underdeveloped South to be the nation's problem number one. *Today conditions are of course still far from ideal. But the important thing is the general direction upwards of social change and its great speed. I know of no particular trend in American society more heartening than this one.* And I have personally an additional reason to feel satisfied as after intensive study of the potential dynamism within that particular system of causal relationships at that particular time. I foresaw a sharp break upwards in the development a view rather in contradiction to that of most experts in the field who were inclined to take too static an approach.

The parallel to the problem of poverty and disease among the negro people in the USA and more generally the problem of the poor masses in the urban and rural slums of our richer countries is real and apparent in spite of the important difference that the distressed populations here live right in the middle of a highly developed industrial civilization. The operation of the principle of cumulative causation is the same in both cases and gives reason for the same hopes and implies the same dangers. In a degree determined by the empirical functions of causal interrelations it gives rise to final effects of much greater magnitude than the initial move of the causal factor which has been induced to change.

It is apparent from what I have said that it is not an altogether easy matter to give a clear definition and still less to measure quantitatively the economic value of measures to promote health. First the cost of sickness disability and premature death or from the other point of view the economic rewards of health reform will figure differently in the short and long run as well as in different environments. Second the long run value will in any case be dependent upon how all these factors in the concrete social setting we are studying are interrelated i.e. what effects a change of each one of the factors will have on all the other factors. Without a careful study of the entire complex of social dynamics no figures can be calculated which have a definite meaning and are in any sense correct and relevant.

The task of social engineering is to proportion and direct the induced changes in the whole social field so as to maximize the beneficial effects of a given initial financial sacrifice. One important corollary to the theory of cumulative causation is that a rational policy should never work by inducing change in only one factor. At least of all should such a change

In the case of the negro people the prejudice they encounter from white people in the form of discrimination is a fact of which they are constantly aware and it is very natural that they consider discrimination as the cause of their lower plane of living which they are also painfully aware of. And they are undoubtedly right. But it is also true that the lower plane of living of the negro people for example their lower earnings their bad housing and food conditions their inferior levels of education and health etc. in their turn give support to white prejudice. White discrimination and low standards of living for negroes thus mutually cause each other.

And there is the same relation between every component negative factor on the standard side. A fall in negro employment and earnings for instance, will cause a fall in standards of nutrition housing and health and will make it more difficult for the negro families to give their youth more education and so forth and all these effects of the initial change will, in their turn decrease further the negroes' possibilities of getting employment and earning a living. The original push could have been on some other factor than employment say for example on health or on educational facilities for negroes. Through a continuing series of actions and interactions the whole system of all the different factors implied in the term 'the negroes' plane of living' would have been set in motion in the direction indicated by the first push whether up or down, but proceeding faster and a much longer way.

I believe it is very important in the studies to be undertaken of the economic value of health that a dynamic theory of social change similar to that at which I have hinted here in very general terms be kept clearly in mind and effectively utilized as the conceptual framework for the analysis. If things happen to remain relatively static about as they are and have been this means that the forces balance each other, so that a persistent condition of ill health in a country constitutes both the cause and the effect of a low earning capacity widespread illiteracy and minimum levels of nutrition and housing. Such a static accommodation is however entirely accidental the empirically observable balance of poverty illiteracy and sickness is not a stable equilibrium towards which the forces must tend naturally and necessarily. For if any one of the composite factors in the plane of living say the health conditions of the population, is induced to change this will cause a change in all the other factors too and will start a process of interactions where the change in one factor will continuously be supported by the reactions of all the other factors, and so forth. The whole system will be moving in the direction of the primary change but much farther.

When we speak about the vicious circle of cumulative causation we have in mind a situation where the forces are pushing the system downwards. The effects of an improvement are also cumulative. Thus to refer again to the special field where I made my study of cumulative causation the last ten years have seen a dramatic movement upwards of the entire plane of

The United Nations group of economists to whose calculations I will shortly refer assumed that initially more than two thirds would have to be obtained from the developed countries

A second important difference between the conditions under which countries will have to seek to become developed now and the conditions which prevailed a century ago is however that the international capital market is almost destroyed. When countries like the USA or Sweden entered into their rapid industrialization process in the last century they could build up their resources with borrowed capital because they could draw on the resources of a smoothly functioning capital market. Such a source of capital does not exist any longer and for many reasons which it would take me too far afield to explain it is not likely to return.

We are all enthusiastic about the start we have made in the organizations within the United Nations family to engender international programmes to provide technical assistance and to a very limited extent indeed capital for economic development in underdeveloped countries. It is in direct opposition to a critical view of these attempts that I now point out that for the time being all our efforts in spreading progress to the underdeveloped regions of the world are homoeopathic. It is natural that we who are active as officials in the international organizations feel a personal satisfaction whenever and wherever we can contribute in a concrete way to improvement but we should not lose a sense of proportion. We are creating expectations in the underdeveloped regions far above those which for the time being we have the means to satisfy. Yet our efforts to substitute international and national action for the old international private capital market are as yet if not a failure only efforts born of desperation to nourish a hope. They are the try out of a new approach.

There is a special reason why it is particularly important to establish this fact when discussing the economic aspects of the international health problem. For a successful work of health reform is bound to increase progressively the need for more productive techniques and for capital influx from abroad if the result of higher health standards is not to be a spur to continued and perhaps aggravated poverty. This is related to a third difference in the conditions for development now and a hundred years ago. While in the last century the improvement of sanitation and health standards was achieved only gradually and rather tended to follow instead of precede the industrialization of the countries which then became developed now we master techniques for the prevention and cure of diseases which can immediately increase substantially the speed by which the populations concerned are increasing which is the difference between births and deaths. And it should be borne in mind that even with the present abominably high death rates in underdeveloped countries the rate of the net population increase is extraordinarily high in some of the poorest regions of the world.

in most cases prove to be a wasteful expenditure of efforts which could reach much further by being spread strategically over the various factors in the social system and over a period of time. What we are facing is a whole set of interrelated adverse living conditions for a population. An effort to reach permanent improvement of health standards aimed to have a maximum beneficial effect on the well being of the people will in other words have to be integrated in a broad economic and social reform policy. Such a policy will have to be founded upon studies of how in the concrete situation of a particular country the different factors in the plane of living are interrelated and how we can move them all upwards in such a fashion that the changes will support each other to the highest possible degree.

Whatever the actual process of social change will come to be in the field of health as well as in the broader field of economic, social and educational development in the underdeveloped countries, this process will be different in several respects from the process which during a number of generations has lifted the developed nations to their present relatively high level. One important difference springs from the fact that social change in the underdeveloped countries will now evolve in a world setting where knowledge of techniques in all fields, in medicine as well as in agriculture and industry is available which did not exist when in their time the developed countries became developed. In a general way this would ensure that the changes could be carried out more cheaply more effectively and very much more quickly.

The fact that modern techniques exist does not however ensure that they will be utilized to anything like their maximum potentiality, or even to the extent which would be reasonably possible. There are in many of the underdeveloped countries vested interests in the continued employment of old methods and in the preservation of the status quo. There are social stratifications economic inequalities and reactionary political institutions ruling in many of these countries which act as heavy impediments to reforms and which in any case tend to reduce their efficiency. I am here referring to the urgent need for very radical changes in the economic social administrative and political set ups of many of the underdeveloped countries and the equally urgent need for fundamental education as prerequisites for permanent real progress in any field. One important aspect of this need for internal reforms in many of the underdeveloped countries has been high lighted in resolutions on land reform adopted by several organs of the United Nations.

The transfer of techniques and particularly bringing them to a more extensive use often requires also a considerable investment of capital. If the process of progress is to be at all rapid and carried out without imposing too great sacrifices upon the people this capital cannot be formed more than in part from current savings in the impoverished populations of underdeveloped regions. Another part must be provided from abroad.

these expenditures will probably be to increase substantially the production capacity of the industrial economies (particularly in the metals and engineering industries) at a time when plans to promote economic development elsewhere are being held back because of competing demands on financial resources and industrial capacity. The most serious implications of the intensified concentration of capital formation are of course felt by the under developed countries themselves whose populations continue to expand faster than their capacity to produce food and other necessities. But western European countries are also affected since the present development may accentuate the adverse trend in their terms of trade.

It was natural in a research document prepared for a European assembly that special stress be laid upon the character of this development to tend towards disequilibrium in the world economy and in the end to endanger progress even in the industrialized regions and more specifically in Europe. But quite apart from whether this implication is accepted or not the plain fact is that we are not seeing in the world today a process of decreasing but of increasing the production gap between the developed and the under developed regions of the world.

The success of a health programme is entirely dependent upon whether it is integrated into a social process of general economic development or applied to a status of economic stagnation. It is true that an improved health standard will imply both a more favourable age structure of the population with a larger part of it in the productive ages and in every age group a people more able and even more willing to work and to work well. This by itself tends to raise productivity. It is also true that according to the principle of cumulative causation which I have already referred to an improved health standard will per se always tend to improve all other component factors in the plane of living. But the actual size of these supporting reactions through the entire social system will be a function of among others things the general economic development. And in the case where health reforms provide the primary factor of social change we must consider the direct effect on labour productivity, production and consumption of an increased net growth of the population.

The economic value of preventing premature death to take the simplest case depends entirely upon whether such an economic development is under way which ensures productive work for the greater number of people we thus keep alive. If the economic situation is stagnant and remains substantially as it was and is in large regions of the world where people live in overcrowded conditions on maltreated land under primitive cultivation the health reforms serve from an economic point of view only to speed up a process towards increased relative over population and aggravated pauperization. If on the other hand an economic development rapid enough can be engendered at the same time—which assumes that the region is not too barren in natural resources—the more favourable age composition of the more rapidly growing population will work itself out as an additional cause of higher economic well being. And again in both

The international health problem should therefore be viewed against what we know about the actual trends of economic development in the world today. Speaking in very general terms—and making an exception for the countries in eastern Europe under a communist regime which form a group by themselves—the broad picture of the post war period is this: there has been a very rapid continuous industrialization of the already highly industrialized countries in northern America and western Europe; they have had an exceptionally high rate of investment and have experienced a rapid further rise in productivity; but on the whole there has been little progress in the underdeveloped countries. The developed countries have rapidly become still more developed while the underdeveloped countries have remained underdeveloped.

New capital investment has been concentrated in the regions where the old wealth had already been amassed. At least relatively speaking the post war years have meant that the richer have become richer and the poor have become poorer. If a reference to a more respectable source is preferred we may phrase it instead in this way: that what has happened appears to confirm the statement that "Unto every one that hath shall be given and he shall have abundance but from him that hath not shall be taken away even that which he hath" (St. Matthew xxv 29). It is thus a generally known fact often referred to—so also by Professor Winslow—that the world population is more than 10% larger than before the second World War, the growth being largest in certain underdeveloped countries while world supplies of food are probably still considerably below the pre war level and anyhow not above. And it is not the inhabitants of the prosperous and developed countries who bear the brunt of the greater scarcity of food.

This tendency under which the world's resources for economic development are being increasingly employed for the further development of the already developed regions has been forcibly spurred by the armament race. With your permission I will here quote one paragraph from the newly published *Economic Survey of Europe in 1951* prepared by the Research and Planning Division of the United Nations Economic Commission for Europe:

Viewed in a wider perspective the flow of capital to the more developed areas is but one expression of a long standing tendency for investment to be concentrated overwhelmingly in countries already industrialized—a tendency greatly strengthened by the present wave of rearmament expenditures. Defence outlays in the leading industrial countries of eastern and western Europe, the Soviet Union and the United States are likely soon to reach levels where they will together equal or even exceed the aggregate national incomes of all the under developed countries and will be some twenty times the investment financed out of these countries' own domestic savings.¹⁵ The effect of

¹⁵ Based on data on national defence programmes as given in the present and in last year's survey and on estimates of national income and net domestic savings as given in *Measures of the Economic Development of the United Nations* 1951, p. 76. Report by a Group of Experts appointed by the Secretary General of the

calculation in which they asked the question what would be the yearly amount of capital from abroad required in order first to meet the present population increase in underdeveloped countries and secondly to permit in addition the modest increase of their national income per capita of 2% annually? The calculation is admittedly of the neck breaking variety but it gives an approximation to our understanding of the order of magnitude involved. This turns out to be well in excess of 10 thousand million dollars a year—capital to flow from our developed countries to the underprivileged ones. And the experts point out that the calculation has cautiously been kept on the lower side. A successful health work will tend to increase the amount needed to prevent economic stagnation and increased distress.

While still speaking about the population aspect of the general health problem I would want also to warn most emphatically against too optimistic a trust in another automatism namely that fertility will adjust downwards as mortality is decreased. Quite apart from the immense saving from human suffering it is apparent that the attainment of a given rate of a population growth at lower levels of both natality and mortality would be an economic saving of very considerable dimensions. It is true that in the highly developed countries the fall in mortality was followed by a fall in natality which incidentally later on tended to decline much further. But it should be recalled that this happened only slowly. And when it happened it happened after the attainment of a very much improved plane of living. As I have pointed out a general improvement in the plane of living is not a necessary consequence of a lower level of mortality in the underdeveloped countries. And it is not even a probable consequence unless in addition to health reforms very powerful measures to raise labour productivity are taken at the same time.

It is indeed conceivable that it would be possible to induce the spread of rational birth control in the underdeveloped countries more rapidly and at a lower plane of living—implying also a lower standard of literacy and cultural sophistication generally—than corresponds to the historical process during recent generations in the developed countries. There birth control spread so to speak surreptitiously without the support of public policy in most cases against it. This could now conceivably be different and the forces of public approval education and legislation be enlisted instead to support the spread of birth control where that was necessary to the health and well being of the individual the family and the nation. But again it would not happen by itself not without a consistent and very forceful policy directed towards this goal.

Let me now come back to aspects of the problem of defining scientifically and measuring quantitatively the cost of sickness and the value of health. Behind the urge to come to grips with this problem there is our feeling that preventable or curable diseases disability and premature death

crises the process downwards or upwards will be pushed further ahead by cumulative causation

It is thus evident that the economic value of saving people from sickness disability and premature death cannot be scientifically calculated except within a framework of definite and realistic assumptions in regard to economic development. Figures calculated without such a framework are worthless

I think it is urgently important that the problem of over population be unequivocally and bluntly conceived and stated in these dynamic terms of social change. There is no such thing as 'over population' in an absolute sense i.e., independent of the direction and the speed of the development of the economic resources of the population in question. The static notion of a 'population optimum' is a faulty way of stating the problem of the relation between population size and productive resources

For I would stress the production resources are not a quantity given and unchangeable. In developed countries rapidly continuing their industrialization by means of a high investment quota of already large national incomes and pursuing an effective full employment policy, the productive resources are even a function of population size in the positive sense that a population increase can and actually does spur economic development. And I would also stress, in all countries the development of productive resources is a function of policy

This point of the crucial role of policy becomes particularly important in regard to the large underdeveloped regions where the general plane of living is substandard and where human beings in hundreds of millions live a culturally isolated and primitive life. There economic development does definitely not come as an automatic result of population growth. Economic development if it comes at all will come as the result of planned and concerted action to spread the application of improved production techniques and to make the natural resources productive

Such a policy would assume immense efforts and would involve not only very courageous internal reforms of the type I have already indicated but also very much bigger sacrifices on the part of the developed countries than most of us have yet dared to face. It would assume capital movements to the underdeveloped regions of a magnitude which must seem truly heroic in comparison with the dribbling and trickling of international and national aid and overseas investment which are actually taking place

I believe it was a most wholesome exercise for inserting a measure of realism into the worldwide and sometimes rather loose discussion about economic development in the underdeveloped countries—and, indirectly of importance for studying the problem of defining and measuring the cost of sickness and the price of health—when the group of economists appointed by the United Nations to prepare a report on measures for the economic development of underdeveloped countries took the courage to make a

of social causation I am thinking for instance of calculations of the varying financial costs of different types of health work the relative efficacy of preventive versus curative health policies and more generally the effects in terms of life and ability savings—not dollars—of a re orientation of health work to different illness using different methods of prevention and cure employing different health administration schemes and so on

These and similar problems are all ready to be tackled in a systematic fashion as they present themselves differently in different countries at different levels of general development They are all of the greatest practical importance in every country for steering health policy in a rational direction As resources are always scarce the practical ideal is everywhere to obtain maximum results in terms of health improvement even if these results cannot be spelled out in terms of dollars in return against dollars in costs The underdeveloped regions of the world where health conditions are so far from satisfactory are of course most intensely in need of the most effective utilization of available resources and because of this they need the most carefully planned health policies

These intermediary problems can all be studied scientifically even if the conclusions without more all embracing economic and social investigations cannot be formulated in terms of the general economic value of health programmes I understand that a very large part of the practical planning work of the World Health Organization is actually directed to these problems It might be that the Organization could give a further impetus to rationality in health reforms by directing a special effort to elaborating standardized methods for such studies of an intermediary type To test and improve these standard methods the Organization might take responsibility for carrying out in co operation with interested governments a number of model studies of some of the problems indicated

But I would also urge that the more comprehensive studies of health reform in its wider economic and social setting be undertaken earnestly critically and persistently In taking up your time to point out the very wide range of facts and causal relationships in the whole social fabric which will have to be taken into account in calculating the economic value of health reforms my purpose was not to discourage the undertaking of these broader studies In my view—to which in discussions with my colleagues in the United Nations organizations I have often given vent—our international organizations have up to now almost missed their opportunity to sponsor the wider time consuming penetrating investigations of the fundamental issues underlying and dominating the practical problems whose surface we are barely scratching

If today we had to our credit a greater number of really serious basic studies of a solid forthright path breaking type produced on the level of the highest scientific standards of our time this would have added very much to our prestige and more important to our influence on world

represent a social 'waste', which should be demonstrated and spelled out in millions and billions of dollars. Only when a public health programme can be presented as the profitable investment it really is, can we hope that it will be accepted readily and given its due scope in competition with all other demands on the public purse. To carry out such calculations should at bottom be a straight economic problem. The calculations would give minimum values, as there is always an immeasurable additional net return from health reforms in terms of increased happiness in a society where human sufferings have been mitigated.

Our feeling that a low health standard represents an economic waste is supported by everything we know about society. There is a cumulative causation in operation which magnifies the effect of every push upwards of any factor in the plane of living and of course also of the health standards. In the end the cost of raising the plane of living of a population now existing on a sub standard level will not involve any real costs at all for society. This assumes, however, that either that population itself is able and willing to set aside the funds necessary to cover the immediate financial costs and to wait for the returns to mature or that a part of the funds are advanced on the principle of international solidarity from the world community. Sacrifices for the investment in a better future will have to be made by the smaller and the greater society and they will result in great social gains and in the end in actual financial savings.

But this is true only to the extent that the health programme is rationally integrated into a whole system of social economic and educational reform. I want to repeat that the maximum effect of a health programme is altogether dependent upon whether and to what degree co-ordinated efforts at the same time are set to work in the field of education, food housing and particularly, general economic development. Because of the direct effect of a higher health standard in increasing the rate of population growth the economic value of health reform is particularly dependent on the speed of economic development. In an economically stagnant society the value might be negative.

A further conclusion to be emphasized is that the economic value of preventive medicine cannot be defined and still less measured except after a careful study of all the causal relationships between health and everything else in the concrete setting of a particular country, and except on the basis of definite assumptions about policy in all other fields and particularly the rate of economic progress.

Some in my audience might feel that I have complicated very much what to them perhaps may have seemed to be a rather simple problem. In answer I would want to stress that even if a warning has to be spelled out against calculations without sufficient ground of the economic value of health reforms there are a great number of intermediary quantities which can be defined and measured without involving the entire complex

Speaking more generally I realize fully that already the acceptance of the principle that the richer countries should tax themselves to aid the poorer is revolutionary more revolutionary than the gradual acceptance some hundred years ago in the developed countries of the principle that the better situated classes should be taxed for national redistribution purposes. And this new principle has momentum. The international health work will go on. It will most probably even be considerably intensified because when we have once accepted the principle of mutually shared responsibility the urge to cure ills and prevent deaths is an innate and essential element of human decency in our international conscience. In all other branches of our efforts to realize the ideal of international solidarity work will also continue and gradually gain in strength and purposefulness. Even more considerable amounts of capital might as time goes on be made available. But I can now see no reason to expect changes so large that they would materially remove the basis for what I called my measured pessimism.

A friend of mine recently gave me however a new definition of an optimist: he is a man who currently reminds himself that the unexpected may happen. Indeed the unexpected does happen all the time and it may for once occur in a desirable direction. The present east west tension and the cold war now warp our minds distort our national and international economy immobilize much of the world's resources and generally prevent us from pursuing fully and realizing our most humane ambitions. This tension may be eased. The *World Economic Report 1950-51* which has just been published contains the reflection that should any easing of political tensions in the world bring about any reduction in armament expenditures the opportunities for raising living standards in both developed and under developed countries would correspondingly improve.

Indeed if the industrialized regions I mentioned—eastern and western Europe, the USSR and the United States of America—could feel safe enough to save only 10% of their present armament expenditures and if they would be prepared to devote this saving to equip the underdeveloped regions with capital that would about meet the bill calculated by the United Nations experts to stop the continued pauperization of the underdeveloped regions and would permit an annual rise of 2% in their per capita national income. The redirection by the countries just mentioned of this 10% from unproductive military purposes to productive development abroad would actually imply a ten times bigger capital inflow than at present to these vast regions and to the aid of these two thirds of mankind. And it would increase their available capital to three times their present domestic capital formation. Theoretically such a development is entirely feasible.

Seeking reasons for optimism and speaking as I do in the Assembly Hall of the Palais des Nations which was originally built for the League of Nations I feel it appropriate to remind you that it was in the Health

development. It would, I believe, have made possible very much more advanced national and international policies. I am thinking of studies of such a worldwide breadth in their conception and execution that no one learned institution in any one country, nor any single government could possibly be expected to sponsor them or to undertake them in their full implication.

I have this evening commented upon certain aspects of the scientific study of the measuring of the economic implications of a rational health programme and I hope I have shown how, if properly carried out, such study branches out to include the widest problems of social change. And nevertheless we have then only touched the fringe of the problems of social science which are raised when we really approach scientifically the causes and effects of industrialization and social progress. These problems need to be approached in the spirit of broadest internationalism and require new associations of scientists from many different fields.

Before I conclude I would like to add a few more words on what I have suggested is the main condition for successful health reforms that they be supported by a rapid economic progress.

I have not concealed and I have not wanted to conceal, that I do not feel over-optimistic about possible great accomplishments in the near future from our efforts to speed progress in the underdeveloped countries. In some of the most populous of these countries the present trend is, as I said, rather downwards at least in so far as the dominant index of the standard of living is concerned.

My main reason for measured pessimism is a realization of the quantitative proportions between the needs and the efforts and the possibilities. I can well foresee more specifically that after ten more years if we then have succeeded in avoiding the ultimate catastrophe of a major war, a retrospective view would permit the following conclusions. Because there have not been adequate fundamental political, social, administrative and economic reforms in certain underdeveloped countries and because for this and many other reasons it has not proved feasible to furnish the more rapidly growing populations in many such countries with the means of even preserving their earlier low level of productivity (defined here as average reward for their labour) the population increasing effects of the international health work done during these ten years have in many densely populated regions had negative results as regards general economic well-being and in the end as regards everything else including even health. In the prevailing world climate of the cold war the lack of fundamental internal reforms and the frustration of the peoples' hope for progress might ten years hence be seen to have resulted in new political cataclysms but it is improbable that at least in the short span they would have had any other effects on the well-being of the peoples than to increase their distress.

REPORT OF TECHNICAL DISCUSSIONS ON THE METHODOLOGY OF HEALTH PROTECTION IN LOCAL AREAS

Preface

Note on procedure

The arrangements for informal discussions on this subject included an introductory meeting under the General Chairman Professor Ferreira three group sessions and a closing general meeting to consider the combined report of the groups. Subsequently the General Chairman presented the findings of the technical discussions to a plenary meeting of the Assembly.

At the first general meeting it was explained that the delegates who had registered their names for the discussion would be divided into five groups each with its own chairman rapporteur and secretary. The list of these names appears at the end of this report. It was agreed that the agenda for all the groups would be identical but that each group while considering the subject matter as a whole should focus its attention on a particular aspect in order to avoid overlapping and to ensure that all the items of the agenda would be covered.

The principal items of the agenda were as follows

- Survey of local health problems

- Organization of local health service

- Function and scope of local health service health workers for local health service

- The health centre and community participation in local health services

At the close of the group discussions each group approved the matter and form of its report which was then made available as material for the preparation of the general report submitted below.

Organization

There are many methods—and many have been tried by WHO—of bringing together for informal discussions professional men and women from different countries. The obvious criticism of such a project is that the participants in the discussion have not enough common background of knowledge tradition and experience to make their findings noteworthy. It may be said at once that there is no ideal method of organizing such groups or of arranging the material for discussion. This is and ought to be a matter for constant experiment and indeed the search for uniformity would inevitably end in the blind alley of dullness. In point of fact it has

Organization of the League of Nations, established only thirty years ago that the principle of international mutual aid in the field of health was originally developed. Important and co-ordinated work was started not only in health but also in the fields of nutrition and food and housing. Speaking to the Assembly of the League of Nations in 1935, our venerable friend who is now Lord Bruce of Melbourne solemnly declared that now the marriage between health, nutrition, and agriculture should take place. There and then were conceived the two great international organizations, the World Health Organization and the Food and Agriculture Organization, which later were born in the time of the immediate post-war turmoil of international optimism. They have succeeded in surviving and growing in the hard years which followed, and thus we can see the profound continuity of international effort in an evolving world.

The United Nations Educational, Scientific and Cultural Organization was established and is now courageously steering its activity into the field of fundamental education. The International Labour Organisation strives on from pre-war times in its given field of labour standards and relations. The International Bank for Reconstruction and Development and the International Monetary Fund have been created and have already made certain experimental efforts to substitute for the defunct international money and capital market of old times. Under the United Nations, which succeeded the old League, the Departments of Economic and Social Affairs have been established to serve the Economic and Social Council which, under great political difficulties because of the east-west tension, is approaching its task as an instrument for initiatives for better standards of life. We operate with budgets and personnel resources which, even if they seem to us entirely insufficient for the work with which we are entrusted, have a size which would not have been dreamt of when, in the pre-war era, this Palais was built and the seeds were sown for our organizations. When we feel frustrated in our work and almost mistrust our strength to meet the challenge of our time, we can take encouragement from the immense difference fifteen years have meant, in spite of war and cold war.

And as for the future, unexpected good things may well happen. At least it is not for the social scientists to exclude the possibility. After all, history is man-made, not destiny.

In a document of this kind it would be inappropriate to put forward findings and other material in the form of resolutions unanimous or otherwise. Such resolutions could not possibly represent the accepted views of those who took part in the technical discussions. Nevertheless when one considers the diverse backgrounds of the group members the most remarkable feature of the collected material is the large measure of agreement between the groups on matters of both principle and detail. On the whole this is not surprising because it has been shown again and again in other human activities that common understanding and agreement are more readily achieved as one gets closer to the ground.

A survey of local health problems in the field must necessarily precede any attempt at organization or we should attempt to move forward without knowing the terrain and so court disaster. For the purpose of discussion however the groups found that it was more logical to start with defining their subject matter. They therefore proceeded to give immediate attention to the description and meaning of local areas and then discussed the organization function and scope of the services they required. The concept of a health centre and the sphere of its activities were discussed at some length and some of the groups were able to devote time to considering the principles of staffing and the training of personnel. Finally the broad field of health education was surveyed with special reference to the need for securing community participation. Thus the questions of planning and organizing surveys of local health problems came into a special category as although placed as the first item of the report they were discussed mainly on their relation to the future rather than the present.

Survey of Local Health Problems

Types of survey

It was agreed by all that a survey of local health problems is a necessary preliminary to the establishment development or radical modification of a local service for health. And it is evident from the discussion that there are many different types of survey with different aims. The following examples were given:

- (a) Research survey
- (b) Evaluation survey
- (c) Total or diagnostic survey. This is a survey made for original planning of community health services or for extension of existing services.

It was upon this last type that discussion was concentrated.

It has been found useful that in the less developed countries and even in countries where a certain degree of health development has been attained a survey should be undertaken in two different stages: a pilot study which would limit itself to pointing out the most outstanding health problems

been found by trial and error that diversity itself—the play of ideas that at first seem incongruous—is stimulating and creative. Members from all countries have something to offer. It may be an illuminating explanation of local difficulties and of ingenious methods devised on the spot to overcome them, or perhaps a system of training staff at a local level that shows itself widely applicable, and there is no country so wise that it cannot learn by the experience of others.

The benefit derived from intellectual and social contacts between members in discussion groups is beyond question, but it has been doubted from time to time whether the matter for discussion is not too general to give a satisfactory result. The suggestion has frequently been made that the participants should be grouped in harmony with some common trait or tradition such as language, climate, or level of industrial development. There are, however, serious objections to this procedure. It would tend to defeat one of the principal aims of the World Health Organization: one half of the world would remain in obstinate ignorance of how the other half lives.

There is no ideal pattern either for the subjects to be discussed or for the arrangement of agenda. The general feeling of the groups was that experiments should be continued, especially as this was only the second experiment of the kind. One group suggested, for example, that each discussion group should be as closely knit as possible in language and experience, and that cohesion of groups might be secured by the presence in a kind of consultant capacity of individuals from other groups. Again, it has been suggested from time to time that the subjects should not be too wide in scope, as the discussion would become diffuse. This is true, but, on the other hand, the material for discussion ought not to be too narrowly conceived, or a substantial number of the participants would feel a sense of isolation. It is not desirable in discussions of this kind that every member should be an expert in the subject discussed. Such an attitude should be deprecated, except in the expert committees, because the range of discussion would be sadly limited and would lose in freshness what it might gain in precision. One of the most valuable features of the technical discussions which led to this report was the citizen participation of the overwhelming majority of the members of every group.

Arrangement of the report

The arrangement of the report follows in general the agenda prepared beforehand by the Director General. On this occasion five groups met separately but discussed identical agenda. At the end of the discussions each group prepared its own report and approved its findings. The five reports were then brought together and are now presented as a single document in summary form.

the work should establish how the necessary information should be gathered and wherever necessary what particular testings should be made what authorities and official records should be consulted what key men should be interviewed what institutions centres etc should be visited which schools houses and factories This presupposes that the staff of the health centre have had a balanced training which covers both preventive and curative medicine otherwise the survey will tend to be biased too heavily towards the problem of medical care The public health nurses of the health centre are of particular value in this respect because of the close contact with families and with mothers of young children which their work gives them

In this organization of the survey it should also be determined who is going to carry it out It seems to be agreed that for elementary health surveys the local health personnel should take responsibility For more elaborate surveys the help might well be obtained from the central service of more highly specialized experts such as epidemiologists and technicians who of course should be assisted by local personnel The first simple method may well apply to small local health areas the second would better apply to larger areas those belonging to the higher plane of local administration (departments provinces cantons etc) In a country where vital statistics and data on the health of the population are wanting it may well be that the first survey could be carried out by the staff of a health centre

In planning the information which the survey should acquire it must be borne in mind that it is necessary to learn not only what the health problems are but also what are the resistances in the shape of customs practices and beliefs which may impede their solution This was vividly illustrated in one group by the example of an African tribe who hid their children from the visiting health officer who came to find if any of them were suffering from smallpox They did so because on a previous occasion the veterinary officer had killed all their cattle which were suffering from foot and mouth disease

Analysis of results

When the survey is completed the analysis of the results usually requires a higher degree of expert knowledge than the collection of the information it is here that outside expert assistance may be of value The survey—at any rate the diagnostic survey which is being discussed—is not an end in itself it is a preliminary to action In fact it should not be undertaken unless it is intended to act upon it since if no action is taken it will merely give rise to public cynicism and increase the difficulty of future health work in the area But where the survey has been made with a view to action the broad general lines of its findings should be communicated

and which might serve only as a rough orientation for further inquiries and a fuller general survey for which however, as simple a plan as possible should be devised. Such a survey should embrace geographical data including the climatological background, and the topography of the area including roads railways waterways etc., as well as matters specifically related to health.

The main categories of the data that should be secured for the survey could also be classified as follows:

(1) Vital statistics (population and its distribution in the various age groups birth rate death rate, infant mortality rate, and morbidity, particularly from communicable and preventable diseases if known)

(2) Social and economic status of the population (literacy schools, agricultural development cultural pattern of the population, etc.)

(3) environmental sanitation (houses water supplies waste and sewage disposal food hygiene etc.)

(4) personal health and medical care services (hospitals, outpatient services, clinics and preventive medical services)

Obviously instead of these four categories, a wider scope can be given—and should be given wherever possible—to the general survey. One method of undertaking a survey, which was discussed in some detail, depends on sending a questionnaire to all health workers and others in the area likely to prove reliable informants but stress was also laid on the unsuitability of such a method for an underdeveloped area in which health workers and other reliable informants are few and scattered. In such an area many of the vital statistical data are uncertain or lacking and perhaps the only information available for a survey—information that should preferably be gathered by direct investigation and not through questionnaires—may refer to the crude mortality and natality rates to all data that can be collected in the schools and to the type and number of houses as they can be seen during a visit to the place.

Clinical sampling will probably be needed in any thorough general survey to make an accurate assessment of certain special problems. This is true for syphilis and tuberculosis for example in all countries, and it will also be essential in some countries for malaria trypanosomiasis yellow fever onchocerciasis and other endemic tropical diseases.

Survey planning

In order to organize and to plan a survey we have first of all to specify what we want to know that is to make a list of the information needed. Existing forms and questionnaires and plans for surveys seldom have international applicability an outline of the survey should therefore be prepared beforehand for every particular survey. The organization of

Even though a survey will always indicate problems to which the programme should give special attention there should not be exclusive concentration of public health work on these problems. They should be points of emphasis in a general public health programme. Success in the control of a specific disease should lead the way to public health work in other fields. The organization practices and staff therefore that are developed to control this specific disease should not be specialized in any restricted manner to that particular problem but should from the outset be capable of developing a general public health programme.

Organization of Local Health Services

Definition of local area

At the outset of the discussions the groups felt that the expression "local area" ought to be defined or at least described with some precision. It was clear that a simple population basis would show enormous variations according to the concentration of houses and many other factors and that an attempt to create purely geographical boundaries would meet with a similar fate although in this case ease of communication was more important than mileage. Another factor of some difficulty emerged in the attempt at definition of the term "local health area" which had also different meanings for members from different regions depending on the course of social and medical development. It was considered also that the size of the areas would be dependent to a considerable extent on the scope of services rendered. A local area defined for clinical purposes for example would include a very small population and one for epidemiological purposes because of considerations of communications and travel might necessarily have to cover a larger area and a bigger population. At the close of their deliberations one group agreed on the following definition:

A local health area is the smallest area in which are provided the minimum basic services.¹⁶

Unit of service

The second way of noting the constitution of a local area was to examine what might be described as the unit of service. This is considered in some detail in the section entitled "Function and scope of local health services" but the immediate point which emerged in discussion was a sharp difference between urban and rural areas. In the urban areas there might be a com-

An th d sc g p ff red m l d f t
 A local ath sm ll t adm t t nt f try ha g d fl t espo bl f re d rung
 direct h alth service t th peopl

to those who carried it out and to the community which was surveyed. Thus the survey itself gains an additional value as a means of public education in health.

Those groups which discussed the survey felt it necessary also to consider some of the principles of programme policy which should be reviewed when action on the survey's findings is planned.

Priority of subjects

It was felt that the less developed a country, the more will it be found expedient if not necessary, to give priority to communicable diseases control, environmental sanitation and nutrition. The more widespread a disease is, the more deaths and morbidity it causes, the easier it is to control, the higher should be its priority in the programme derived from the survey. It is very important that the health service should have obvious success in solving problems in the earlier stages of its programme, particularly if that success also influences social and economic factors. In this way an impetus may be given to the cumulative causation which starts a general development in the social, economic and health status of a community.

In many countries it has been found that the control of some endemic diseases like malaria, yaws and hookworm and the drive against infant and maternal mortality have been the activities which are the most important in the light of the survey findings. Improvements in environmental sanitation, as regards intestinal diseases particularly, must also receive high priority although it must be recognized that they do not achieve the dramatic results nor the same enthusiastic recognition of their value by the population which results from a campaign against yaws or malaria. In more developed countries, however, where intestinal infections are still a problem, it may well be that a local health service will succeed in eliciting the factors to which persistence of typhoid infections is due and the appropriate improvements in sanitation which may annihilate them. In such a case, environmental sanitation improvements should probably have the highest priority. In higher stages of development when the communicable diseases control has already reached a high level of efficiency when maternal and child health are properly cared for, then the results of the survey might well stress the importance of other subjects in which improvement is needed for health promotion. Emphasis may then be given to nutrition, mental hygiene, facilitating medical care for larger sections of the population, geriatrics and chronic diseases. At this stage it may still be necessary to ameliorate environmental sanitation and it is only the health survey of local areas which might disclose that even in highly developed countries there are rural areas where environmental sanitation is at a far from satisfactory level.

of prevention and treatment. This separation also applies as one moves from the circumference towards the centres of industry and population.

Mention was also made of a number of systems representing all variations between extremes. At the one end of the scale the municipal medical practitioner (known since the days of the Roman Empire) paid by the local authority to give medical care to the needy is also part time officer of health. At the other end stands the experimental health centre of the highly developed type where all national and local health services merge with the services for medical care of the population. This can be seen for example at some centres in Chile where medical care, social insurance and maternal and child health are combined in a single service and this is the development envisaged in the National Health Service of the United Kingdom of Great Britain and Northern Ireland (see section on The health centre). Whatever might be said of the larger centre, it was clear to the groups that fusion of preventive services and medical care should be the rule at the local level, especially in scattered rural areas. It is important, however, that the local area should be regarded as part of a whole in order that full consideration be given to preventive as well as curative services. Policies implemented in local areas should always be compatible with the larger schemes promoted at the centre or regional level so that for example when development brings about water supply schemes on a large scale there will be no difficulty in securing integration at the periphery.

To sum up on the question of areas, the general view in the discussions was that it was desirable in attempting to define sizes of area and service not to go down to the lowest possible limit (a single officer or a group of semi-trained assistants) but rather to consider the staffing and service of an ideal unit for the less developed and more remote areas and as a base for those that were more fully organized.

Staffing problems in relation to areas

In many discussions on planning to meet social and economic needs, the main factor that emerged was the lack of personnel to look after the smaller areas. It was agreed that the best arrangement was for each area to make the best possible use of its resources, but that the aim should be the more fully developed local health unit such as that referred to by Professor Winslow in his address¹⁷. Health services are a compromise between needs and resources. The staff of a local health organization, it was pointed out, depended upon a great many complex factors, including the economic and social development of the area, the degree of support from higher or more specialized health centres, and the functions which the local health organization is required to discharge.

mon denominator in the number of population to be covered. If that exceeded twenty thousand then it would be too great for a general health service and specialized services would need to be introduced. In rural zones on the other hand it was not possible to devise even approximate figures. It was agreed, however, that the unit of service should be general and that specialized activities such as elective surgery should be reserved for larger centres comprising a number of local units. It was pointed out that at the rural level that is for a small village it was impossible owing to lack of personnel to give adequate treatment for a large range of diseases but that this could be accomplished at a higher level by using a staff of specialists at a combined health centre. Such a centre could serve a number of local units by organizing travelling teams of specialists. It was interesting to note that while no other speciality was regarded as appropriate to the smallest local unit it was felt that the services for mothers and children could be so decentralized. Another group pointed out that while the local health area constitutes the smallest division of basic health services the work of these units might be decentralized and extended by the use of mobile dispensaries and by field units which operated from a larger centre as a base. Examples of this type were truck units, travelling dental services, travelling teams rendering radiological or laboratory services and in one case, an aeroplane unit.

Boundaries

It was pointed out that there may be advantages in making the boundaries of local health areas coincide with political boundaries so as to bring them under the corresponding administrative and fiscal jurisdiction. It was frequently stressed that the local health area should be a functional unit and not a geographical district.

Area planning

Since the very beginning of public health services there has been endless controversy about whether the preventive and the curative services should cover separate areas (see section entitled "Function and scope of local health services"). Many members took up this question in relation to the social and economic needs of the people. It was felt that in the less developed areas where the population had not had the advantages of much education and were exposed to the urgency of the great epidemic diseases the smallest local area ought to deal with both medical care and prevention. This was necessary not only as a policy but also because of the scarcity of medical and nursing personnel. It seemed however that when a country had gone forward to highly complex public health administration there should be an increasing degree of separation between the two main functions.

with its physicians specialists and laboratory technicians to serve as a centre for diagnosis and specialized treatment. These arrangements apply of course to the more difficult and remote areas where trained personnel is almost impossible to secure. At the other end of the scale that is in highly developed areas the local health centre even in rural areas would provide for a full range of staff including in addition to physicians nurses and other professional workers provision for organizing statistical work radio logical services housing and education.

Financial arrangements

The financial side of the local health services varies from country to country and is dependent on the local needs and on the social and economic conditions of the population served. In some countries the local areas are financed by the government itself and in others by municipalities and even by private institutions. The groups felt that a careful watch should be maintained to make sure that funds were distributed fairly between the higher and lower levels of health administration. In several groups there was a good deal of discussion on the right methods of providing funds—whether by block payments percentage grants or some form of ad hoc provision. The general feeling was in favour of some form of block grant subject to supervision from the centre or region over the expenditure by local units. The percentage grant did not find favour as it was held to be a check on initiative. In many countries both highly developed and in the early stages of development strong financial support was needed from the higher governmental units. Some members considered that while the curative aspects of medicine might well be financed by the individuals concerned the cost of financing preventive measures at any rate should not be directly related to the services rendered. It was understood that in most cases the governments played a large part in financing local expenditure on public health and in exercising supervision over the services rendered. It was agreed that where preventive medical services were carried out by voluntary organizations the work should be supervised by the government. It was expressed as a principle that wherever possible the cost of health services should be shared between the local health authorities and the government. Although the principle was apt to lead to administrative complications its practice has in fact prevented the abuse of funds from governmental sources since the local authority being an elected body has to accept responsibility to its own rate payers for its share. When the source of grant is too remote the sense of responsibility is correspondingly removed.

Appraisal of health services

This difficult subject was briefly considered but many members felt that it belonged rather under the heading of surveys. One group advised

The basic services in an area

The method of organizing a system of local health services to meet the social and economic needs of the locality was then discussed in these terms. Many members took the view that environmental sanitation was the basic service and here again emphasis was laid on the shortage of trained personnel as the main limiting factor in the programme. If there were enough trained staff the problem of providing adequate environmental services in local areas would be much less serious. Most countries have in fact some trained staff and the question is how to make the best use of local semi-trained people on the understanding that all environmental sanitary work would be under the guidance of fully trained staff at an appropriate centre. It was regarded as essential that there should be centralized planning and supervision and that these environmental services in local areas should not be developed in isolation but as part of a broad general policy. At the higher levels it would be necessary to establish some authority which would carry out the scientific planning and analyses of the sanitary problems even when the actual work was entrusted to local men trained perhaps for a short period at some centre. All local areas should have some sanitary staff no matter how inadequate their training, provided that supervision from above was really effective. In this way alone would there be a consistent development of sanitary engineering facilities, good inspection, control of vectors, and sanitary health education. As regards other staff it was clear that the nurse with public health training was the key member of the local service unit. Some speakers, in reference to areas where trained professional staff was extremely scarce, illustrated their remarks by referring to schemes under which health services and medical care were brought to the villages and entrusted to local inhabitants trained for a few months as assistant nurses. Thus in each village there was a small unit with these assistant nurses to look after maternal and child health, the health education of the people and within narrow limits environmental sanitation. In association with these was a larger centre where trained technical staff could make clinical or microscopical diagnoses of the most common diseases prevailing in the country e.g. malaria, helminthiasis, yaws and leprosy and could treat these conditions in cases of emergency until they were able to bring their patients to the doctor at the time of his weekly visit. An organization of this kind was a realistic attempt to solve a difficult problem and it had the advantage that it brought the local health service into immediate contact with the people. At the next level above this it was often useful and necessary to employ technically trained assistants and only at the highest levels (say with a population of 100 000) was it necessary to employ a health officer on a full time basis with a staff including a sanitary inspector to supervise and direct all the environmental sanitation work at the health centres and a fully trained public health nurse to organize maternity and child welfare work. At that level also stood the hospital

with its physicians specialists and laboratory technicians to serve as a centre for diagnosis and specialized treatment. These arrangements apply of course to the more difficult and remote areas where trained personnel is almost impossible to secure. At the other end of the scale that is in highly developed areas the local health centre even in rural areas would provide for a full range of staff including in addition to physicians nurses and other professional workers provision for organizing statistical work radio logical services housing and education.

Financial arrangements

The financial side of the local health services varies from country to country and is dependent on the local needs and on the social and economic conditions of the population served. In some countries the local areas are financed by the government itself and in others by municipalities and even by private institutions. The groups felt that a careful watch should be maintained to make sure that funds were distributed fairly between the higher and lower levels of health administration. In several groups there was a good deal of discussion on the right methods of providing funds—whether by block payments percentage grants or some form of ad hoc provision. The general feeling was in favour of some form of block grant subject to supervision from the centre or region over the expenditure by local units. The percentage grant did not find favour as it was held to be a check on initiative. In many countries both highly developed and in the early stages of development strong financial support was needed from the higher governmental units. Some members considered that while the curative aspects of medicine might well be financed by the individuals concerned the cost of financing preventive measures at any rate should not be directly related to the services rendered. It was understood that in most cases the governments played a large part in financing local expenditure on public health and in exercising supervision over the services rendered. It was agreed that where preventive medical services were carried out by voluntary organizations the work should be supervised by the government. It was expressed as a principle that wherever possible the cost of health services should be shared between the local health authorities and the government. Although the principle was apt to lead to administrative complications its practice has in fact prevented the abuse of funds from governmental sources since the local authority being an elected body has to accept responsibility to its own rate payers for its share. When the source of grant is too remote the sense of responsibility is correspondingly removed.

Appraisal of health services

This difficult subject was briefly considered but many members felt that it belonged rather under the heading of surveys. One group advised

that the evaluation of the health services in an area should be based on two methods the actual records of their activities and the results achieved as shown by vital statistics e.g. a reduction of mortality. It was pointed out that the infant mortality rate is a sensitive index of health conditions. The process of interpretation was of course, a function of a higher authority in order that one area could fairly be compared with another. Appraisal by inspection by an authority should take into account all the elements of the programme not merely the review of the facilities provided but also an examination of records and reports.

Function and Scope of Local Health Services

Meaning of health protection

In the course of a general discussion the definition of health protection acceptable to one group was expressed as follows. Local health protection consists of all activities for the promotion of health happiness and well being of the people. It was widely agreed that health protection should be considered in its broadest aspects and another group prepared this descriptive definition which was generally agreed. Health protection means providing conditions for a normal mental and physical functioning of the human being individually and in relation to society. It includes the promotion of health the prevention of sickness and curative and rehabilitative medicine in all their aspects. It was fully recognized that public health services did not constitute an isolated field of activity but were intimately related to the social and economic problems of the area. Under the general heading of health protection the view was widely expressed that in some areas of the world veterinary services were as important to human health as they were for agriculture and animal nutrition.

An attempt was made to differentiate between the services to which an individual would have direct access and those which would be provided only indirectly through laboratory and other specialized services. There was general agreement on the requirements of the ideal health unit as described in the section dealing with the organization of local health services. Some members of groups mentioned that among the specific categories of services to be included in remote local areas a medical relief centre or dispensary where urgent treatment could be given was indispensable and that it should where possible be provided with a small number of beds for temporary care including care given pending the arrival of a doctor. Difficulties of transport the structure of such remote communities and the low economic status of the people made the provision of this kind of service an essential contribution to health.

Specialized health and medical services for local areas

In addition to the minimum basic services agreed upon the groups considered what specialized services ought to be brought to the local

districts and among them were listed veterinary services and the examination of food public abattoirs and food handling establishments. Certain aspects of environmental sanitation such as the control of water supplies and sewage disposal systems were deemed to be specialized services but not as a rule practicable by a local unit. The medical specialities within the sphere of public health such as malariaology the control of tuberculosis and mental hygiene ought also to be applied in local areas but have to be provided on a wider basis. In certain parts of the world the local services of an ophthalmologist were important. So far as the curative side of health services was concerned transport facilities for moving sick patients to hospital accommodation where specialist care could be provided was an important service. The development of rehabilitation of the sick and injured and the care of handicapped children were also regarded as a local service although organized from a convenient centre of population.

The relationship between the local health service and the provincial regional or national health administration ought to be defined in terms of (a) authority (b) responsibility and (c) initiative. It was felt that in all three of these relationships as much freedom as possible should be left to the local unit although it was admitted that in certain remote and underdeveloped areas the local people were not as yet ready or sufficiently well educated to accept such responsibility. In these cases a certain amount of direction from the central authorities was still necessary. It was one of the functions of the higher echelons of public health administration to develop in local units that feeling of responsibility and initiative and to assist in their development by providing funds for education and services.

Combination of preventive and curative medicine

One of the first issues to appear in the discussion of this subject was whether both preventive and curative aspects of medicine should be included in the category of local health services. In some countries which have enjoyed a high level of medical service for many years the historical development has been first in the direction of curative medicine with the growth of preventive services taking place later and separately. Thus medical services have become canalized into two separate though related movements. This has not been the case in underdeveloped areas however and there it may be possible to achieve an integrated development. In fact there is evidence that this is taking place. Opposing views were expressed as to which service should come first. Some opinions held that the confidence of the people could be gained through treatment and cure and that a preventive programme could be built on the foundation of that trust. Other opinions were based on the experience of successful campaigns for the control of yaws and malaria opening the way for fully rounded programmes of prevention.

The advantage of a close correlation between the curative and preventive elements of the health programme was particularly stressed by many. The relationship would vary according to social and economic conditions and might require different and changing emphasis. In rural areas there was a tendency towards a combination of preventive and curative programmes in a single unit, which led to greater economy and higher efficiency. In densely populated communities on the other hand there was a movement towards greater specialization and the separation of specialized units.

It was suggested that social services should be included as a part of the health programme. However this point of view was overruled on the grounds that although there is a close connexion between social services and health services with special reference to mental health and the control of alcoholism for example the health programme should not be broadened to include the whole range of social activities. The health programme should be an essential element of a general programme, leading to both physical and social well being.

The education of the doctor in the dual aspects of preventive and curative medicine was stressed and it was held that a doctor who was engaged in treatment only was only half a doctor. This was especially true in a rural health situation where the doctor in charge had to perform both types of services.

The specific categories of service which should be included in the local health services were also considered. One approach to this problem was the examination of the needs of the individual from conception till death considering the different stages of his development. There would be needed, of course, programmes of pre-natal care and maternal and child health, school health programmes, industrial medical services and sanitation and health education programmes in addition to general medical and nursing care. The opinion was expressed that certificates of health before marriage and routine examination of pregnant women were essential. Throughout this programme emergency medical care was considered necessary at a local level with the support of specialized services from technical centres in the fields of both preventive and curative medicine. Other categories of services to be supplied at the local level were simple laboratory services and vaccination centres. The question of providing for blood transfusion and dried plasma was raised and some of the technical difficulties which might be expected in such services were discussed.

In defining the scope of local health services it was pointed out that a sound programme should include not only elementary medical care the prevention of communicable disease nursing improved environmental sanitation and health education but also elements of oral hygiene the dental aspect of preventive medicine the protection of workers in different industrial work and the education of individuals about the possible hazards of their environment. Information on all aspects of preventive and curative

medicine gathered by these local centres should be passed on to the central government. It was pointed out that the health services should be adapted to the existing conditions of disease and disease hazard in the different regions as for example a programme for control of bilharziasis in Egypt.

To meet the local needs it was proposed that the following services should be included in a large health centre:

- (1) Dispensary for care of walking patient with small laboratory
- (2) Hospitalization for inpatients and surgical cases with an isolation ward
- (3) Maternity ward
- (4) Pre natal and post natal care
- (5) Ambulance service
- (6) Specialities appropriate to the predominant endemic and epidemic diseases of the region
- (7) Sanitary and school inspection services
- (8) Vital statistics
- (9) Epidemiological notification services
- (10) Vaccination services
- (11) Mental hygiene services

On the question of the relation of the local health service to the national, provincial or regional health administration there was discussion of what was termed "the hierarchical system of health services". Typical of this system was the organization of French medical services which provided for complete hospital service to serve a population of from 30 000 to 40 000. A population of this size could support a complete range of laboratories and hospital and specialized services. At the other extreme a simple maternal and child health centre without hospitalization could be supported by a population of perhaps 8 000. A small centre of this sort would of course need to rely on outside facilities for specialized services such as serological tests, detection of tuberculosis and other similar functions.

As an illustration of the need for the support of local health programmes by large hospital centres the group considered the problem of mass population screening for tuberculosis. Such a mass screening was regarded as futile unless a considerable number of beds was provided before such campaigns were undertaken. If the positive cases found could not be provided for the whole preventive campaign might be discredited.

Although minimum services as set out were necessary in each health area other services were frequently desirable and consideration should be given in each case to the possibility of extending the existing local health services to sub-areas. On the other hand as local development progressed there might be a possibility of adding to smaller areas some of the specialized services which are ordinarily supplied from a higher centre.

Health Workers for Local Health Services

Categories of health workers for a local service

Discussion of the categories of health workers needed in local health areas began quite naturally with consideration of the physician and continued with references to the midwife and the public health nurse. It was felt that in some areas the work of these two women could be combined to advantage. The midwife tends to get closer to the population than the public health nurse and combination of the two is therefore a gain from the point of view of education of the public. In some areas the public health nurse might deputize for a physician but, in general whatever she was doing should be supervised and directed by a physician. One of her functions should be the teaching of auxiliaries and midwife-aides and of the public in health matters.

Sanitarians were also regarded as essential components of the team. They need not necessarily be sanitary engineers indeed the small number of trained sanitary engineers at present available in the world precluded this possibility. In most areas the sanitary inspector would have to do the routine work the engineer being called in from a central administration only in case of difficulty.

A large class of health workers might be grouped as technicians. This term would include laboratory technicians health visitors disinfection staff, and vaccinators. Provision must also be made for trained clerical staff. At least one participant thought that a veterinary surgeon was an essential member of the local health service.

For larger units specialists would be required in ophthalmology tuberculosis malaria dentistry mental hygiene and perhaps nutrition. Specialists in health education would also be needed in large units in the smaller units their function would be distributed among the physicians nurses and sanitarians.

The question of voluntary workers presented some difficulty. There was a place for them in local health services but they should not be given a regular place on local staff mainly because of the difficulty of supervising them.

It was not easy to come to a decision about pharmaceutical staff. There were four possibilities for dispensing drugs in areas without a good supply of trained pharmacists. (1) a pharmacy could be opened in the local health centre (2) dispensing might be done by a local physician, or in a larger centre by a pharmacist (3) nurses might be permitted to dispense standard prescriptions (4) a small pharmacy might be opened in a general store.

The great variations in the pattern of the health team in different countries were felt to be mainly due to the stage of development reached in an area. In any case the fact must be faced that for a long time medical auxiliaries would have to replace professional personnel in many areas.

Training of personnel

The training of personnel was also discussed. This had of course two aspects: (1) training within the area; (2) preparation outside the area for local work.

Particular stress was laid on rural health centres which might with advantage be exploited for training purposes in the same way as hospitals. There was however a difference of opinion on the suitability of health centres for personnel training in general. The argument for it was that it was an economical method in countries with limited financial resources. The argument against was that it was not a particularly efficient technique. In any case it must not be considered that local personnel were there primarily to teach. The great advantage lay in training persons for work in their own area where they would be accepted more readily than strangers from a different cultural milieu. Some areas may not be ready to accept the teamwork concept in training but this is an ideal to be aimed at.

The training of general physicians in public health was debated. There were two schools of thought. One considered that all medical students should be instructed in the groundwork of preventive medicine such as vital statistics, epidemiology and prophylactic measures while the other thought that this might not be necessary in all areas. In any case physicians would be helped greatly in their work in local areas by training in human relationships and instruction on the mental and emotional life of individuals. Although postgraduate training in public health was clearly a necessary activity it was felt that it was of secondary importance for local work in underdeveloped countries.

The point at which the nurse should receive her public health training was also debated. There were two possibilities. She might receive it as part of her basic training or be given it after graduation. The former course was generally favoured.

In addition to training for their essential primary qualification, sanitary engineers should have a broad biological education to fit them for co-operation with other health workers.

A career in local health work

Attraction of personnel into local health work was discussed at length and the keen competition between preventive and curative services for the limited number of physicians and nurses available. The fact that public health workers, especially physicians, were badly paid all the world over meant that curative services were greatly advantaged in this competition. The effort to restore the balance should begin in medical and nursing schools or even earlier when teachers should try to direct attention to the need and scope for workers in preventive medicine. To include some clinical medicine in the public health physician's work might prove an

attraction. This, of course, would be reversing a recent trend in some countries in which clinical work in communicable disease has been taken out of the hands of the public health physician. Where health centres existed, an effort might be made to provide accommodation for physicians and their families, especially in rural areas. Greater security of tenure of appointments and good pension schemes could be used as inducements. Care should be taken to give personnel as much responsibility as they deserved. It was also important to raise the social status of staff as representatives of the national or local government. Adequate technical facilities and funds should be made available for local health work, and the stimulus of suitable contacts with those working at higher levels in the health administration should be present. Exchange of information between well developed and underdeveloped countries is favoured. Finally a study of the reasons why persons choose certain careers might help in solving the problems of staffing local health services.

The Health Centre

Definition of a health centre

As was expected, the question of health centres received much attention. There was an obvious need to define a health centre. The simplest definition proposed was a place where the health services of a community are given or administered. Another group defined it as an institution covering all health action within a given health area. Several participants wished to aim at greater precision. Thus it was defined as a unit providing the basic functions of curative and preventive medicine and hygiene necessary for the majority of the local population. To this one member wished to add either directly or in relation to other services. A further suggestion was that it should be situated at the most suitable point in a local area compatible with its efficient operation. The centre must not be regarded as a geographical unit but as a functional entity.

One group wished to recognize three types of health centre: (1) the centre forming part of a local health unit; (2) the centre forming the actual unit; (3) the diagnostic centre serving several units. It was realized, however, that to most persons a health centre meant either the first or the second. The health centre might, of course, simply be a part of a community centre.

The question was raised whether such centres are desirable or necessary for the efficient operation of local health services, since some countries with excellent health services had found no need for them. The consensus was that health centres in one form or another were an effective instrument in health services. In less developed countries they might arise in response to a need for provision of previously non-existent medical services in

more developed countries they might be desired by the medical profession as a means of increasing the efficiency of services already rendered to the public

The need was repeatedly stressed for keeping the idea of a health centre flexible. A health centre is a place and its structure must suit local conditions and requirements. Its design would be entirely different in well developed and underdeveloped areas. A centre suitable for a rural area might be the simplest possible building such as a room in a cottage and it might well be provided by voluntary effort. In more populous districts the centre might owe its existence to a desire to fill in gaps in an already reasonably good health scheme.

Functions

It follows that the functions assigned to a health centre must also vary from country to country and from area to area. Three questions were raised. (1) should the centre work only in the field of preventive medicine (2) should medical care also be given (3) should that medical care include the care of inpatients? Here there was a division of opinion. The argument against including medical care was that it complicated administration unduly. On the other hand public interest could be aroused more readily if medical aid were obtainable at a health centre. The pill of preventive medicine must be covered with a sugar coating of medical care even though the pill was in the long run the more important constituent. Indeed experience had shown that attempts to minimize curative functions might fail. Perhaps it would be best to state that preventive and curative medicine should go hand in hand, emphasis being put on one or the other according to local needs. The danger was of course that inadequate stress would be put on the preventive side. Some group members were in favour of integrating local hospitals administratively with health centres. This would however complicate matters greatly and throw a heavy responsibility on the medical officer in charge of the combined unit. On the whole it was felt that close co operation between hospital and health centre without rivalry and a unified control from a higher level were the ideals at which to aim.

The basic functions of a health centre regardless of its situation were then listed. They were considered to include

Maternal and child welfare	Health education of the public
Communicable disease control	Keeping of statistical records
Environmental sanitation	In service training of personnel
Housing control	Medical care (to an extent varying
Public health nursing	with the needs of the area)

Other functions which it would not be unreasonable to allocate to a centre were provision of laboratory dental and school health services and consultations on mental hygiene.

The ideal size of population or geographical area to be served by a health centre was discussed. It was concluded that no single figure for population or area could possibly be laid down. The limiting factors were the nature of communications in the locality rather than absolute density of population alone and of course the number of personnel provided. In other words a centre should be designed to serve that population which could conveniently reach it.

Essential staff

In the discussions on staffing of health centres it soon became apparent that there were three different concepts of staffing. First there was the minimum staff without which a health centre could not be operated. Secondly there was the ideal staff which the group would have liked to see present in every centre—the goal towards which every country setting up health centres should strive. Thirdly there was the staff which it would be possible to provide within the near future, having regard to resources. Two plans were suggested for the minimum staff: an all specialist staff and a general utility staff, capable of performing a wide variety of tasks. The former plan might be suitable for well developed countries; the latter would certainly have a wider appeal in underdeveloped areas. The following scheme was suggested as a minimum:

- (1) Doctor—medical care, prevention of communicable diseases and policy regarding sanitation
- (2) Public health nurse and midwife—maternal and child health
- (3) Technicians (work under supervision of the doctor)—sanitation techniques, immunizations and vaccinations, attention to water-supplies

The ideal was felt by one group to consist of a physician at the head with public health training and experience, assisted by public health nurses, a sanitary engineer, clinical staff for treatment, and office staff including a qualified secretary.

It was clear, however, that this ideal must in many countries be departed from and that even the basic scheme could not always be adhered to. The case of the public health nurse was referred to: in some parts of the world nurses either did not exist or were so few that all were required for curative work. To a lesser extent this was also true of physicians. Individuals with public health training might not be available and local general practitioners might have to staff the centres instead.

It was not possible to go into much detail about construction and equipment of health centres. There would obviously be the greatest variation in these matters but it was important to realize that it was more satisfactory to have a badly equipped centre in temporary quarters than to have

an ideal centre existing only on paper Provision should be made if possible for expansion into a community centre

Community Participation in Local Health Services

The need for community participation

There was general agreement that community participation in some form is essential to effective operation of local health services The people must be given certain responsibilities for the health programme These responsibilities may be different in rural areas from those that can be given to them in urban areas This is one example of the importance of understanding local and national social and cultural patterns in relation to the successful prosecution of public health programmes It was recognized by all groups but unfortunately the matter was not explored by any

Community participation was interpreted in several ways Two basic types seem to exist—those in which voluntary associations are formed in order to meet specific health goals and in which the activities are subsequently taken over by the government and those stimulated by the government in order to develop an efficient public health service In the latter case though the initial stimulation comes from the government genuine community participation rather than docile acceptance must be the aim One method of obtaining this participation in programmes stimulated by a government depends upon the identification of the natural leaders of the local community and their instruction in elemental health and hygiene problems

But it is apparent that we need to know much more about how this citizen participation can be obtained Methods that were described included local Red Cross societies organized by citizens the use of volunteers in hospitals child health clinics and other health centre activities and local organizations of citizens to promote local health services and to participate in their administration and direction In some countries citizens groups have been responsible for developing and administering home nursing midwifery and systems for financing medical care Many of the most famous hospitals in the world arose from the devoted activities of individual citizens But in some of the examples which the groups have quoted citizen participation appears to have been a makeshift to overcome deficiencies which it was hoped were temporary rather than something to be encouraged in its own right The history of some highly developed countries suggests in fact that on many occasions it was groups of citizens who gave leadership to a laggard government This experience may in fact not be directly relevant to the present situation in an underdeveloped country where leadership may lie in the health authority and where that authority has the problem of evoking active participation from an ignorant or apathetic population

The ideal size of population or geographical area to be served by a health centre was discussed. It was concluded that no single figure for population or area could possibly be laid down. The limiting factors were the nature of communications in the locality, rather than absolute density of population alone, and of course the number of personnel provided. In other words, a centre should be designed to serve that population which could conveniently reach it.

Essential staff

In the discussions on staffing of health centres, it soon became apparent that there were three different concepts of staffing. First, there was the minimum staff without which a health centre could not be operated. Secondly, there was the ideal staff which the group would have liked to see present in every centre—the goal towards which every country setting up health centres should strive. Thirdly, there was the staff which it would be possible to provide within the near future, having regard to resources. Two plans were suggested for the minimum staff: an all specialist staff, and a general utility staff, capable of performing a wide variety of tasks. The former plan might be suitable for well developed countries; the latter would certainly have a wider appeal in underdeveloped areas. The following scheme was suggested as a minimum:

- (1) Doctor—medical care, prevention of communicable diseases and policy regarding sanitation
- (2) Public health nurse and midwife—maternal and child health
- (3) Technicians (work under supervision of the doctor)—sanitation techniques, immunizations and vaccinations, attention to water supplies

The ideal was felt by one group to consist of a physician at the head with public health training and experience, assisted by public health nurses, a sanitary engineer, clinical staff for treatment and office staff, including a qualified secretary.

It was clear, however, that this ideal must in many countries be departed from, and that even the basic scheme could not always be adhered to. The case of the public health nurse was referred to: in some parts of the world, nurses either did not exist or were so few that all were required for curative work. To a lesser extent this was also true of physicians. Individuals with public health training might not be available, and local general practitioners might have to staff the centres instead.

It was not possible to go into much detail about construction and equipment of health centres. There would obviously be the greatest variation in these matters, but it was important to realize that it was more satisfactory to have a badly equipped centre in temporary quarters than to have

It was generally recognized that the public health nurse should play an important role in health education but it was pointed out that in order to carry out this task more effectively the nurse needs much greater official recognition of this aspect of her work more time in which to do it and specialized training in the necessary techniques

The view was also expressed that education should be carried out by general public health workers rather than by those who are specially interested in single programmes such as control of tuberculosis or venereal diseases But public health workers are not the only persons who have a responsibility in this matter Several groups pointed out the opportunity for health education which schools provide If this opportunity is to be taken then training in the methods and aims of health education must be given to schoolteachers and here again the methods which the teacher should employ must be adapted to the conditions and needs of the locality

OFFICERS OF THE TECHNICAL DISCUSSIONS

GENERAL CHAIRMAN Prof. sor M J Ferreira

GROUP	CHAIRMAN	RAPPORTEUR	SECRETARY
No 1	Dr E J Aujaleu	Dr O Leroux	Dr E J Pampana
No 2	Dr Mohamed Nazif Bly	Dr A Zahir	Mr R N Clark
No 3	Dr Karl Evang	Dr Y khaddour	Dr J L Triupin
No 4	Dr M Jafar	Dr H B Turbott	Dr M Pizzi
No 5	Dr E G McGavran	Dr G Foster	Mr T H Butterworth

GENERAL RAPPORTEUR Dr J M Mackintosh

Voluntary help and State control

In well developed countries we have often seen activities started by groups of citizens spread until they were assumed as a State responsibility with a consequent diminution of the participation and interest of the local community. In the underdeveloped country perhaps the opposite should be our aim. Perhaps the government should take the lead in developing activities, and community participation in them, in such a manner that the local community can take over the local responsibility for the activity, leaving to the higher health authority the co ordination, supervision, and planning which affects all local communities and therefore cannot be undertaken by any one of them individually. One thing is clear: there is no generally correct solution. The well developed countries may have more to learn on this matter from some of the experiments which are beginning in the underdeveloped countries than the latter can learn from the history of the development and practices of public health work in western Europe and North America.

We need further discussion too on what we mean by citizen participation. Do we mean the women who helps to weigh babies at the local clinic, the villagers who dig a new well with the technical advice of the local sanitary officer or the men and women who sit on the politically appointed health committee of a large area and vote on resolutions concerning programme and budget? Each country, clearly, must decide for itself what kind of citizen participation it needs and how to get it.

Education of the public in health

Health education of the public was a subject which was considered in several groups when they discussed the question of citizen participation. It was agreed that health education is an essential function of local health services, and that without it community participation could not become fully effective. Most participants agreed that, regardless of who carried out health education activities, some special training in the necessary techniques was desirable. Opinion as to who should carry out health education ranged from the point of view that it is a function of all public health personnel to the point of view that it is a function of a specially trained health education staff. In the latter case some felt that highly trained individuals could do local work, others felt that they should train and give leadership to a group of workers familiar with local customs and mores.

Even if it is admitted that ideally public health education is a function of all health workers, it must be recognized that when its development is not the primary responsibility of some individual with appropriate training it is, in practice, usually neglected. Public health education cannot successfully be treated as a by product of other health services.

FIFTH HEALTH ASSEMBLY DELEGATES AND OTHER PARTICIPANTS

DELEGATIONS OF MEMBER STATES

Afghanistan

Delegates

Dr A Zahir (*Chief Delegate*)

Dr A R Hakim

Australia

Delegates

Dr H E Downes (*Chief Delegate*)

Mr P Shaw

Dr G H Moore

Alternate

Mr L H Border

Austria

Delegates

Dr A Khaun (*Chief Delegate*)

Mr K Strobl

Dr J Damer

Belgium

Delegates

Dr P J J van de Calseyde (*Chief Delegate*)

Dr A N Duren

M L A D Geeraerts

Alternate

M J A Denoel

Advisers

Professeur A H J Rodhain

Dr F Boquet

Baron F de Kerchove d Exaerde

M F Blondel

M F A E Bosmans

Bolivia

Delegate

Mr F Ferrière

Brazil

Delegates

Professor M J Ferreira (*Chief Delegate*)

Dr A G de Almeida e Castro

Dr E de Paiva Ferreira Braga

Adviser

Mr C A de Souza e Silva

Burma

Delegates

Mrs Aung San (*Daw Khin Kyi*)
(*Chief Delegate*)

Dr Ba Maung

Cambodia

Delegates

Dr You Chhin (*Chief Delegate*)

Dr Khuon Kimseng

Canada

Delegate

Dr O Leroux

Alternates

Dr W H McMillan

Dr J T Phair

Advisers

Dr T C Routley

Mr B M Williams

Ceylon

Delegates

Dr W G Wickremesinghe (*Chief Delegate*)

Dr W A Karunaratne

Mr A J Joseph

Chile

Delegate

Dr N Romero

Costa Rica

Delegate

Dr O Vargas Mendez

Denmark

Delegates

Dr J Frandsen (*Chief Delegate*)

Dr O Andersen

Mr B Sørensen

Adviser

Dr M Volkert

Dominican Republic

Delegate

Mr J B Peynado

Biographical Note

THE HON JUAN SALCEDO

President of the Fifth World Health Assembly

The Hon Juan Salcedo was born at Pasay City, Philippines, on 23 September 1904. He began his medical studies at the University of the Philippines in 1922 and seven years later obtained his medical doctorate. Appointment to the post of Assistant Professor of Biochemistry at the University of the Philippines in 1939 brought the opportunity for postgraduate study in the USA, first as a Fellow of his own university and later as a William J. Gies Fellow of Columbia University. Courses in biochemistry, chemistry, endocrinology, nutrition, and public health at the University of Chicago (1941-2), Johns Hopkins University (1942), and Columbia University (1942-4) led to his obtaining the degree of Master of Arts at the last mentioned university in 1944.

Public health and nutrition have been the main interests of Dr Salcedo's career. As Director of Public Welfare for the Philippine Government in 1945, Executive Officer of the Philippine Relief and Rehabilitation Administration from 1945 to 1947, and Director of Field Operations of the US Public Health Service in the Philippines from 1947 to 1950, Dr Salcedo has played an important role in the development and administration of relief measures for the aged and the destitute in the Philippines, and in particular in helping in the rehabilitation of war victims. He was Director of Nutrition in the Philippines from 1948 to 1950, and is at present Secretary of Health to the Philippine Government.

Dr Salcedo has also had extensive experience in the work of international organizations. Official representative of the President of the Philippines to the United Nations Relief and Rehabilitation Administration (UNRRA) from August 1945 to January 1947, he acted as adviser to the Philippine delegation at UNRRA conferences in 1944, 1946, and 1947. In 1949 he was a member of the Philippine delegation to the Fifth Session of the Conference of the Food and Agriculture Organization (FAO), and in 1948 and 1950 attended meetings of the FAO Nutrition Committee for South and East Asia. His association with WHO dates from October 1949, when he attended the first session of the Joint FAO/WHO Expert Committee on Nutrition.

Iraq

Delegates

Dr S El Zahawi (*Chief Delegate*)
Dr S Al Wahbi
Dr M Ibrahim

Adviser

Dr Y Khaddouri

Ireland

Delegates

Dr J D MacCormack (*Chief Delegate*)
Mr T J Brady

Israel

Delegates

Dr P Noach (*Chief Delegate*)
Dr S Syman

Alternate

Mr M Kahany

Italy

Delegates

Mr G Migliori (*Chief Delegate*)
Professor G A Canaperia
Professor S Cramarossa

Alternates

Professor A Spallici (*Alternate to Chief Delegate*)
Professor V Puntoni

Advisers

Professor M Cattabeni
Mr U De Leon
Mr S Golzio
Dr A Maltarello
Dr M Torrioli
Miss G Lauretti
Mr G Silimban
Mr P Ghezzi Morgalani
Mr S Callea

Japan

Delegates

Dr M Yamaguchi (*Chief Delegate*)
Mr B Hoshi
Mr A Saita

Alternate

Mr S Kono

Korea

Delegate

Dr Koo Young Sook

Laos

Delegates

M Ourot Souvannavong (*Chief Delegate*)
M K Saycocie

Adviser

Dr L Baccialone

Lebanon

Delegates

Dr S Hayek (*Chief Delegate*)
Dr N Beyhum

Liberia

Delegate

Dr J N Togba

Luxembourg

Delegate

Dr L Molitor

Alternate

M J Sturm

Mexico

Delegate

Dr A de la Garza Brito (*Chief Delegate*)

Adviser

Mr J G de Werra

Monaco

Delegates

Dr E Boeri (*Chief Delegate*)
M R Buckert

Netherlands

Delegates

Dr C van den Berg (*Chief Delegate*)
Dr G C E Burger (*Deputy Chief Delegate*)
Dr N A Roozendaal

Alternate

Dr G D Hemmes

Advisers

Dr C J M Mol
Mr W H J van Asch van Wijck
Dr S van Praag
Dr D Metselaar
Miss H C Hessling

Egypt

Delegates

H E Dr M Nazif Bey (*Chief Delegate*)
Dr M M Sidky

Adviser

Mr Y K El Mehelmy

El Salvador

Delegate

Dr A Aguilar

Ethiopia

Delegate

Mr Telahoun Tchernet

Adviser

Dr F B Hylander

Federal Republic of Germany

Delegates

Professor I Redeker (*Chief Delegate*)
Professor I Klose (*Deputy Chief Delegate*)
Dr F Greul

Alternates

Mr F K von Pichwe
Dr Katharina Hussels
Professor O E W Olsen

Finland

Delegates

Dr S Savonen (*Chief Delegate*)
Mr O J Vallila

France

Delegates

Dr D Boidé (*Chief Delegate*)
Dr E J Augaleu
Dr L Bernard

Alternates

M J Ioessel
M R de Lacharrière
M B Toussaint
Médecin Colonel G R Garcin

Advisers

Dr R F Bridgman
M J E Deprun
Mlle A Lissac
Dr M Gaud
M J Volckringer

Greece

Delegates

Professor G Alivisatos
Mr N Hadji Vassiliou

Adviser

Dr R L Cherry

Guatemala

Delegate

Dr C F Mora

Haiti

Delegates

Dr A Bellerive (*Chief Delegate*)
Dr G Nicolas

Hashemite Kingdom of the Jordan

Delegate

Dr S Nasrallah

Honduras

Delegate

Dr A Vidal

Iceland

Delegate

Dr J Sigurjonsson

India

Delegates

Sir Arcot Mudaliyar (*Chief Delegate*)
H E Nedyam Raghavan (*Deputy Chief Delegate*)
Dr C G Pandit

Alternate

Lt Col D P Nath

Adviser

Dr C V Ramchandran

Indonesia

Delegates

Dr M Soerono (*Chief Delegate*)
Dr Marmoen al Rishid Koesoemadilaga
Dr Saiful Anwar

Adviser

Mrs M Biemond

Iran

Delegates

Dr A H Tabi (*Chief Delegate*)
Dr A Diba

United Kingdom of Great Britain and Northern Ireland

Delegates

Dr Melville Mackenzie (*Chief Delegate*)

Dr A M W Rae

Mr W H Boucher

Advisers

Sir John Charles

Sir Andrew Davidson

Dr E D Pridie

Dr M T Morgan

Mr R M Blackley

Mr J Beith

Mr F A Mellis

United Kingdom of Libya

Delegates

Mr A N Aneizi (*Chief Delegate*)

Dr W M Graves Morris

United States of America

Delegates

Dr L A Schuele (*Chief Delegate*)

Miss Fanny Hurst

Dr E G McGavran

Alternates

Dr F J Brady

Mr H B Calderwood

Dr H Hyde

United States of America (contd)

Advisers

Mr D C Blaisdell

Dr M A Casberg

Dr R Eliassen

Mr G M Foster

Mr J S Henderson

Dr L W Larson

Dr L C Miller

Dr T F Sellers

Mr K Stowman

Miss R Taylor

Venezuela

Delegates

Dr O Muller Rojas (*Chief Delegate*)

Dr O Silva

Viet Nam

Delegates

Dr Tran Van Don (*Chief Delegate*)

Dr Tran Van Thun

Alternates

Dr Nguyen Van Tran

Dr Nguyen Van Nguyen

Yugoslavia

Delegates

Dr P Gregoric (*Chief Delegate*)

Dr R Neubauer

Dr Olga Mito-evic

Adviser

Dr I Brodarec

REPRESENTATIVES OF ASSOCIATE MEMBERS

Morocco¹⁸

Dr G Sicault (*Chief Delegate*)

Dr A Faraj

Southern Rhodesia

Dr G R Ross

Tunisia

Dr M Ghachem (*Chief Delegate*)

Dr J Daire

M Azouz

OBSERVERS FOR NON MEMBER STATES

Colombia

Mr M Cajas Perez

Vatican City

Rev E J Kilhon

Professor G Lami

San Marino

Dr B Lifschitz

Mr A Galbusera

Count G Citterio

New Zealand

Delegate

Dr H B Turbott

Alternate

Mr W Wynne Mason

Nicaragua

Delegate

Dr E Selva Sandoval

Norway

Delegates

Dr K Evang (*Chief Delegate*)

Dr F Mellbye

Dr T O Iversen

Alternate

Dr E Ørnevad

Pakistan

Delegates

Dr M Jafar (*Chief Delegate*)

Dr S A Chowdhury

Dr M I Beg

Panama

Delegates

Dr A E Calvo Sucre (*Chief Delegate*)

Dr G Engler

Peru

Delegate

Dr C Lazarte

Philippines

Delegates

The Hon Juan Salcedo Jr (*Chief Delegate*)

Dr T Elicano

The Hon Emilio Espinosa

Alternates

The Hon Venancio Ziga

Dr A Regala

Portugal

Delegates

Dr A da Silva Trivassos (*Chief Delegate*)

Dr F J Cambourne

Dr A A de Carvalho Dias

Alternate

Dr B A V de Pinho

Saudi Arabia

Delegates

Dr R Pharaon (*Chief Delegate*)

Dr B Roumy (*Deputy Chief Delegate*)

Alternate

Mr S Khanachet

Spain

Delegates

Mr J S de Erice y O Shea (*Chief Delegate*)

Dr G Clavero

Sweden

Delegates

Dr J A Hojer (*Chief Delegate*)

Mr Å Larsson

Advisers

Dr D Knutson

Miss A Janzon

Switzerland

Delegates

Dr P Vollenweider (*Chief Delegate*)

Professeur E Grasset

Dr P Calpin

Adviser

M J Ruedi

Syria

Delegates

Dr A Chawkat Chatty (*Chief Delegate*)

Dr M W Jabi

Thailand

Delegates

Dr S Daengsvang (*Chief Delegate*)

Dr S Phong Aksara

Dr B Suvarnasara

Turkey

Delegates

Dr N Karabuda (*Chief Delegate*)

Dr T Altın

Adviser

Dr C Or

Union of South Africa

Delegates

Dr B M Clark (*Chief Delegate*)

Mr A M Hamilton

Central Council for Health Education

Dr J Burton

Council for the Co-ordination of International Congresses of Medical Sciences¹⁹

Dr P J de Cannière

International Committee of the Red Cross

Dr A Cramer

Dr R Marti

International Conference of Social Work

M^{me} M L Cornaz

International Council of Nurses

Miss D C Bridges

M^{me} G Vernet

International Dental Federation

Dr A E Rowlett

Dr R Jaccard

Dr C De Vere Green

Dr C L Bouvier

International Hospital Federation

M E Faucon

International Leprosy Association

Dr E Muir

International Paediatric Association

Professeur G Fanconi

Dr F Bamatter

International Pharmaceutical Federation

Professeur A Mirimanoff

International Union Against Cancer

Dr A Jentzer

International Union Against Tuberculosis

Professeur E Bernard

International Union Against Venereal Diseases

Professeur W Burckhardt

International Union for Child Welfare

Mrs J M Small

Miss L Frankenstein

League of Red Cross Societies

M B de Rougé

Dr G Alsted

Dr Z S Hantchev

M^{lle} Y Hentsch

World Federation for Mental Health

Dr J R Rees

World Federation of United Nations Associations

Mr J A F Ennals

Mr F Dausset

Mr B Steinberg

Dr E H Musil

World Medical Association

Dr L H Bauer

Dr J Maystre

Miss M L Natwick

¹⁹ Changed to *Council for International Organizations of Medical Sciences (CIOMS)* at the Second General Assembly of the Council April 1952.

REPRESENTATIVES OF THE EXECUTIVE BOARD

Professeur J Parisot Chairman
Dr A L Bravo Vice-Chairman

Dr W A Karunaratne (*Alternate*)

REPRESENTATIVES OF THE UNITED NATIONS AND SPECIALIZED AGENCIES

United Nations

Mr G Menzies
Mr A Lethbridge
Mr P Obez

Economic Commission for Europe (ECE)

Mr Gunnar Myrdal

Permanent Central Opium Board

Mr L Atzenwiler

United Nations Children's Emergency Fund (UNICEF)

Mr Dudley Ward

Office of the High Commissioner for Refugees

Mr J M Read
Mr A A Hoveyda

United Nations Korean Reconstruction Agency

Dr L Findlay
Mr J F Ray

United Nations Relief and Works Agency for Palestine Refugees in the Near East

Dr J S Peterson

International Labour Organisation (ILO)

Mr R Rao
Dr A Grut
Mr M Stack
Mr H Vandries
Mr R E Manning

Food and Agriculture Organization (FAO)

Sir Herbert Broadley
Dr W R Arkroyd

United Nations Educational Scientific and Cultural Organization (UNESCO)

Mr J Torres Bodet
Dr Irina M Zhukova
Mr C M Berkeley

International Civil Aviation Organization (ICAO)

Dr F de Tavel

World Meteorological Organization

Mr G Swoboda
Mr J R Rivet

REPRESENTATIVES OF INTERGOVERNMENTAL ORGANIZATIONS

Council of Europe

Mr H Pfeffermann

International Committee of Military Medi- cine and Pharmacy

Dr J Voncken

Provisional Intergovernmental Committee for the Movement of Migrants from Europe

Dr F Hennessey

OBSERVERS FOR NON GOVERNMENTAL ORGANIZATIONS IN OFFICIAL RELATIONSHIP WITH WHO

American College of Chest Physicians

Professor G Maurer
Dr M Gilbert

Biometric Society

Dr L C Miller (*also member of
United States Delegation*)
Professeur A Linder

	N umber	Date of publication		Price			
Hygiene of Seafarers Joint ILO/WHO Committee on							
Report on the first session	20	September 1950	9d	\$0 10	Sw	fr	0 40
Insecticides, Expert Committee on							
Report on the first session	4	October 1950	2/3	\$0 30	Sw	fr	1 20
Report on the second session	34	May 1951	4/3	\$0 55	Sw	fr	2 20
Third report	46	August 1952	2	\$0 25	Sw	fr	1 —
Fourth report	54	1952	<i>To be published</i>				
International Pharmacopoeia Expert Committee on (formerly Expert Committee on the Unification of Pharmacopoeias)							
Report on the fourth session	1	January 1950	9d	\$0 10	Sw	fr	0 40
Report on the fifth session	12	May 1950	9d	\$0 10	Sw	fr	0 40
Report on the sixth session	29	October 1950	1 3	\$0 15	Sw	fr	0 60
Report on the seventh session (including report on the first session of the Subcommittee on Non Proprietary Names)	35	April 1951	1 6	\$0 20	Sw	fr	0 80
Report on the eighth session (including report on the second session of the Subcommittee on Non Proprietary Names)	43	November 1951	2	\$0 25	Sw	fr	1 —
Ninth report (including third report of the Subcommittee on Non Proprietary Names)	50	May 1952	2	\$0 25	Sw	fr	1 —
International Sanitary Regulations World Health Organization Regulations No. 2	41	July 1951	5	\$0 65	Sw	fr	2 60
Malaria Expert Committee on							
Report on the third session	8	May 1950	2/3	\$0 30	Sw	fr	1 20
Report on the fourth session	39	April 1951	1 6	\$0 20	Sw	fr	0 80
Malaria Conference in Equatorial Africa Report	38	April 1951	3 6	\$0 45	Sw	fr	1 80
Malnutrition Prevention and treatment of severe in times of disaster							
Report of a group of consultants	45	November 1951	2 9	\$0 35	Sw	fr	1 40
Maternity Care Expert Committee on							
First report a preliminary survey	51	June 1952	1/3	\$0 15	Sw	fr	0 60
Mental Health Expert Committee on							
Report on the first session	9	May 1950	2/3	\$0 30	Sw	fr	1 20
Report on the second session	31	April 1951	2/9	\$0 35	Sw	fr	1 40
Alcoholism Subcommittee							
Report on the first session	42	September 1951	1/3	\$0 15	Sw	fr	0 60
Second report	48	1952	<i>To be published</i>				
Nursing Expert Committee on							
Report on the first session	24	November 1950	1 6	\$0 20	Sw	fr	0 80
Second report	49	June 1952	1/3	\$0 15	Sw	fr	0 60

WORLD HEALTH ORGANIZATION

TECHNICAL REPORT SERIES

	Number	Date of publication		Price		
Antibiotics Expert Committee on						
Report on the first session	26	October 1950	9d	\$0 10	Sw fr 0 40	
Bilharziasis in Africa Joint OIHP/WHO						
Study Group on						
Report on the first session	17	August 1950	9d	\$0 10	Sw fr 0 40	
Biological Standardization Expert Committee on						
Report on the third session	2	February 1950	1/6	\$0 20	Sw fr 0 80	
Report on the fourth session	36	April 1951	9d	\$0 10	Sw fr 0 40	
Fifth report	56	July 1952	1/3	\$0 15	Sw fr 0 60	
Report of the Subcommittee on Fat Soluble Vitamins	3	February 1950	9d	\$0 10	Sw fr 0 40	
Brucellosis Joint FAO WHO Expert Panel on						
Report on the first session	37	May 1951	2	\$0.25	Sw fr 1 —	
Cholera Expert Committee on						
First report	52	May 1952	1/3	\$0 15	Sw fr 0 60	
Cholera Joint OIHP/WHO Study Group on						
Report on the third session	18	December 1950	1 3	\$0 15	Sw fr 0 60	
Communicable Diseases of Childhood Active immunization against common						
Report of a group of consultants	6	March 1950	1/3	\$0 15	Sw fr 0 60	
Drugs Liable to Produce Addiction Expert Committee on						
Report on the second session	21	March 1950	9d	\$0 10	Sw fr 0 40	
Third report	57	March 1952	9d	\$0 10	Sw fr 0 40	
Environmental Sanitation Expert Committee on						
Report on the first session	10	May 1950	2 1	\$0.25	Sw fr 1 —	
Second report	47	June 1952	1/3	\$0 15	Sw fr 0 60	
Health Statistics, Expert Committee on						
Report on the first session	5	March 1950	9d	\$0 10	Sw fr 0 40	
Report on the second session (including reports on the first sessions of the Subcommittees on the Definition of Stillbirth and Abortion on the Registration of Cases of Cancer as well as their Statistical Presentation and on Hospital Statistics)	25	October 1950	2	\$0.25	Sw fr 1 —	
Third report (including second report of the Subcommittee on the Registration of Cases of Cancer as well as their Statistical Presentation)	53	July 1952	2 9	\$0.35	Sw fr 1 40	



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
First International Symposium on Yaws Control	253
WHO Tuberculosis Research Office Copenhagen progress report	254
Executive Board tenth session	260
Reports of Expert Groups	
Insecticide dispersing equipment	263
Biological standardization	264
Review of WHO Publications	
Mass treatment of syphilis in an Indian province	266
Biology of <i>Anopheles Gambiae</i>	273
Statistics two noteworthy publications	274
Cancer mortality in the twentieth century	276
Notes and News	
Protocol ending Brussels Agreements on potent drugs signed	278
Publication on international health organizations	278
Vaccination against yellow fever	279
Health survey in Korea	279
Seven agreements between Iraq and WHO	279
Malaria	280
Tuberculosis and BCC	281
Venereal diseases	281
Cerebrospinal meningitis in the Sudan	282
Survey of industrial health conditions in Iran	282
Views on WHO	
International Pharmacopoeia	282
The work of WHO 1951	283

	Number	Date of publication	Price
Nutrition Joint FAO/WHO Expert Committee on			
Report on the first session	16	June 1950	1/3 \$0 15 Sw fr 0 60
Report on the second session	44	November 1951	3/ \$0 40 Sw fr 1 60
Plague Expert Committee on			
Report on the first session	11	October 1950	1/6 \$0.20 Sw fr 0 80
Prematurity Expert Group on			
Final report	27	October 1950	9d \$0 10 Sw fr 0 40
Professional and Technical Education of Medical and Auxiliary Personnel Expert Committee on			
Report on the first session	22	December 1950	2/ \$0 25 Sw fr 1 —
Public Health Administration Expert Committee on			
First report	55	1952	<i>To be published</i>
Rabies, Expert Committee on			
Report on the first session	28	November 1950	1/6 \$0 20 Sw fr 0 80
Rickettsioses (African) Joint OIHP/WHO Study Group on			
Report on the first session	23	December 1950	1/3 \$0 15 Sw fr 0 60
School Health Services, Expert Committee on			
Report on the first session	30	April 1951	2/- \$0 25 Sw fr 1 —
Tuberculosis Expert Committee on			
Report on the fourth session	7	April 1950	1/3 \$0 15 Sw fr 0 60
Report on the fifth session	32	April 1951	9d \$0 10 Sw fr 0 40
Venereal Disease Control in the USA			
Report of the WHO Syphilis Study Commission	15	May 1950	3/6 \$0 45 Sw fr 1 80
Venereal Infections and Treponematoses, Expert Committee on			
Report on the third session	13	May 1950	1/6 \$0 20 Sw fr 0 80
Subcommittee on Serology and Laboratory Aspects			
Report on the first session	14	May 1950	2/ \$0 25 Sw fr 1 —
Report on the second session	33	April 1951	1/6 \$0 20 Sw fr 0 80
Yellow Fever Panel			
Report on the first session	19	August 1950	9d \$0 10 Sw fr 0 40
Zoonoses, Joint WHO/FAO Expert Group on			
Report on the first session	40	May 1951	2/3 \$0.30 Sw fr 1.20

Bulk Orders

A discount of 20 % will be given to health organizations for orders of 100 copies or more. Such orders should be sent direct to the World Health Organization Sales Section, Palais des Nations, Geneva, Switzerland.

FIRST INTERNATIONAL SYMPOSIUM ON YAWS CONTROL

An International Symposium on Yaws Control¹ was held in Bangkok Thailand from 14 to 30 March 1952 under the auspices of the World Health Organization in collaboration with the Government of Thailand and with the assistance of the United Nations International Children's Emergency Fund (UNICEF). This was the first symposium to be concerned with yaws, a disease which affects millions of persons in the underdeveloped areas of the world. The idea of thus holding a series of discussions on yaws control grew from recent developments both in the laboratory and in the field.

The discovery that a single intramuscular injection of as little as 2 ml of procaine penicillin G in oil with aluminium monostearate (PAM) is an effective, non-toxic and cheap treatment for the disease has recently been consolidated by practical experience in its mass application during WHO treponematoses control projects in Haiti, Indonesia and Thailand. Never in medical history has a disease been treated out of existence for several of the communicable diseases, however, the likelihood of reducing the vast reservoirs of infection is at last in sight. Brief as the experience in this new approach to yaws control has been, it may be taken as an indication of possible success in the near future. Dr C. R. Rein of New York University made this point forcibly when he stated: "The cause of yaws is known. A simple, safe and practical form of ambulatory therapy based on penicillin is available. It is now possible to control the infectious stage and ultimately eradicate the disease in a relatively short period of time. There is no reason why millions of people throughout the world should be affected with this crippling and disfiguring disease."

Some seventy-five workers—among whom were several WHO Regional Advisers and members of field teams—from such widely separated parts of the world as the Belgian Congo, Brazil, India, Indonesia, Jamaica, New Caledonia, Liberia and the Philippine Islands met in Bangkok to take part in the symposium. The first two days were devoted to considering the present state of medical knowledge of yaws. It was emphasized that the incidence of the disease is high when the economic and social status of the population is low and that infection occurs principally by contact. If mass treatment and resurvey accompanied by improvement of rural public health facilities are followed by socio-economic progress, yaws may eventually be eliminated.

Discussions subsequently developed around the five phases of a yaws control programme: (1) preliminary analysis of the problem; (2) develop-

¹ F. d. t. l. d. p. g. m. m. a. Ch. H. L. H. H. O. g. 1952. 6. 42. A select. f. p. p. e. d. H. th.
y. n. p. o. m. w. l. b. e. p. b. l. h. d. f. r. th. m. g. m. b. e. f. h. B. H. I. f. th. World H. I. H. O. g. I.

SCHEDULE OF MEETINGS

- 8-13 September Expert Committee on Influenza first session Geneva
- 15-20 September Expert Committee on Public Health Administration second session Geneva
- 22-27 September Expert Committee on Leprosy first session Geneva
- 22-27 September Expert Committee on Tuberculosis, sixth session, Geneva
- 29 September - 4 October Expert Committee on Mental Health, third session Geneva
- 4-10 October Expert Committee on Bilharziasis, first session Porto Rico
- 13-18 October IAO WHO Joint Committee on Brucellosis, second session Florence
- 20-25 October Expert Committee on Biological Standardization sixth session Geneva
- 27 October - 1 November Expert Committee on the International Pharmacopoeia eleventh session Geneva

An indispensable part of BCG vaccination is the tuberculin test which is used not only for selecting non infected persons who may benefit from vaccination but also for measuring the success of vaccination in terms of the degree of allergy produced. Tuberculin testing has therefore been the subject of important studies on the method of measuring allergy the interpretation of tuberculin reactions and the specificity of the test for epidemiological study of tuberculosis among different peoples in widely separated areas.

In the actual working out of such a broad research programme the TRO has co operated closely with many national and international groups and has played an increasingly significant role in the worldwide interchange of information on tuberculosis research. During 1951 specialists and public health officers from more than twenty countries came to Copenhagen and spent from a few days to several months discussing and studying the work of the Office. Consequent upon WHO's recent acceptance with UNICEF of the task of assisting governments in carrying out BCG programmes the TRO has assumed greater responsibilities for giving technical advice training field personnel and supervising statistical work in the conduct of BCG campaigns.

The studies on BCG vaccination have demonstrated an urgent need for closer collaboration between field and laboratory activities. During the past few years emphasis has been placed on field studies in human populations with limited facilities being devoted to parallel laboratory research. *Arrangements have recently been made to improve this latter and important aspect of the research programme.* As an expression of continued interest in international tuberculosis work the Danish Government has agreed to make its remaining United Nations Appeal for Children (UNAC) funds available for the establishment within the premises of Statens Serum institut of a special laboratory which in co operation with the TRO will be devoted to intensive research in tuberculosis immunization.

The present report is not intended to be a comprehensive review of the work of the TRO. The results of certain interesting studies have been selected for brief discussion especially with reference to the practical application of the findings of international BCG vaccination programmes now in progress.

Results of Mass BCG Vaccination in Various Countries

Systematic and extensive surveys of post vaccination allergy following mass BCG vaccination campaigns have been made in Ecuador Egypt Greece India and Syria by carefully trained personnel in co operation with the International Tuberculosis Campaign. Analysis of the results showed marked geographic differences in reactions even in some cases where the same batch of vaccine had been used. In contrast to the findings in Denmark post vaccination allergy among groups of schoolchildren

ment of methods (3) demonstration survey, and training phase, (4) expansion phase and (5) consolidation phase in which the gains of the mass campaign are integrated into the permanent public health structure of the area. An interesting point which emerged from the discussions was the usefulness of subprofessional personnel. In any public health scheme in an underdeveloped area, the possibility of using relatively inexperienced workers to carry out simple serodiagnostic procedures is of considerable economic importance. Several speakers pressed the need for persistence in yaws control campaigns since premature abandonment of treatment and examination even after virtual elimination of the disease may result in its recurrence within a short time.

A consideration of the role of international organizations in yaws control concluded the formal agenda. The introduction of this theme into such a discussion is in itself an indication of a new phase in the attack on communicable diseases. International co-operation here is, of course by no means new: the novelty lies in the shift of emphasis from segregation of the affected areas by quarantine measures to direct collaboration between authorities outside and governments within the area.

During the last six days of the conference the participants visited the site of operations of the WHO/UNICEF yaws control team at Ubol and made a critical appraisal of this project, and went on to discuss such practical aspects as nomenclature and field records.

The stimulating exchange of views and information which the symposium provided will undoubtedly have repercussions in terms of improved health in those parts of the world where yaws is most widespread. Throughout the tropics wherever the disease occurs a yaws control campaign may be used as the nucleus of a firm and lasting general rural public health programme.

WHO TUBERCULOSIS RESEARCH OFFICE, COPENHAGEN

Progress Report

Since its establishment three years ago the Tuberculosis Research Office (TRO) has developed an international programme of studies in connexion particularly with mass BCG vaccination campaigns which are being carried out in many parts of the world. Extensive investigations on BCG and BCG vaccination have been undertaken in response to a need for more precise knowledge concerning the importance of various factors which might affect the vaccine itself: how it might be improved and perfected and concerning its effectiveness in the prevention of tuberculosis.

capacity of different batches of vaccine from the same laboratory as well as from different laboratories. These variations cannot be explained as quantitative differences in the number either of living or of dead organisms. It appears that there must be qualitative differences that BCG organisms vary owing to some unknown factor or factors. This has an important bearing on the problem of comparing and standardizing BCG vaccines as it means that one vaccine cannot always be made comparable with another simply by changing the amount of BCG per dose as has been the usual practice of BCG production centres.

Effect of living and of dead organisms in vaccines

BCG vaccine heated to 80°C for two hours in order to kill the organisms was found to produce very weak but durable allergy. In fact the tuberculin reactions after vaccination with killed vaccine are larger after one year than at ten weeks indicating that allergy develops more slowly from dead than from living vaccine. Another important finding is that the allergy producing capacity of killed vaccine is greatly enhanced by the addition of very small amounts of living vaccine. Standard strength vaccine with as little as one part living and 999 parts dead organisms produces allergy at the end of one year which is practically as high as the allergy from some batches of regular presumably living standard vaccine. The significance of these findings is not entirely clear at the present time but the method suggests a way to study the question of the mechanisms of allergy production.

Effect of time and temperature of storage

The vaccines used in these studies have shown no apparent reduction in allergy producing capacity after storage in the dark at refrigeration temperature for at least two and one half months at room temperature (20°C) for one month at 30°C for one week or at 37°C for five days. There would thus seem to be no reason why most vaccines must be used within ten to fourteen days of preparation in order to obtain satisfactory allergy. Fresh vaccine for use in any part of the world could be transported at monthly rather than weekly intervals—at least if it were kept cold and not exposed to light.

Effect of volume or depth of injection

Variations in the depth of injection from very superficial to almost subcutaneous or in the volume of vaccine injected from 0.05 ml to 0.2 ml instead of the usual dose of 0.1 ml have little effect on the level of allergy produced. It is therefore very doubtful whether the technique used for intradermal vaccination can be blamed or credited for the marked differences in allergy seen in different countries.

retested in Egypt was very low, and Greek Syrian Ecuadorean and Indian children showed intermediate levels of allergy. Were these differences caused by changes in the quality of the vaccine or the tuberculin or, possibly by racial variations in the capacity of the children to respond to BCG? A series of studies was planned with a view to answering these questions and a special team was sent to Egypt in September 1951 to carry out these plans. Comparable studies were made simultaneously in Denmark. Although these investigations are not yet completed, results from some of the projects are of considerable importance. For example it has been found that exposure of BCG, in ampoules to sunlight and even daylight (as discussed in the next section) has a drastic effect on the potency of vaccine, which may be a principal cause of the low post vaccination allergy found in the more southern countries.

Studies of BCG Vaccine and Techniques of Vaccination

BCG vaccine studies conducted in co operation with the International Tuberculosis Campaign and the Statens Seruminstitut Copenhagen have yielded a number of unexpected findings and have also confirmed and enlarged the results reported earlier¹.

Effect on BCG vaccine of direct sunlight and daylight

Particularly notable have been the results of studies on the effects of exposure of BCG vaccine to direct sunlight. The low levels of post vaccination allergy found in Egypt and elsewhere suggested the possibility that strong sunlight might affect the potency of the vaccine. A study carried out to test this hypothesis showed that as little as one half hour of exposure of BCG in ampoules to Egyptian sunlight resulted in a tremendous reduction in the mean size of post vaccination tuberculin reactions and of local vaccination lesions and in the colony count of viable BCG organisms. Daylight without the direct rays of the sun produced the same effect on the vaccine after four hours of exposure. As BCG vaccinating teams frequently work outdoors in many places or arrange to do their work where the daylight is strongest these findings are of great importance for the conduct of BCG campaigns. Moreover this potent effect of sunlight may well account for the different results of vaccination which have been reported from various countries.

Effect of diluting the vaccine

Through the use of various dilutions of standard vaccines it has been found that there are considerable variations in the allergy producing

¹ B. H. W. *W. H. H. O. g.* 1950 3 1 279

² B. H. W. *W. H. H. O. g.* 1951 5 245

capacity of different batches of vaccine from the same laboratory as well as from different laboratories. These variations cannot be explained as quantitative differences in the number either of living or of dead organisms. It appears that there must be qualitative differences that BCG organisms vary owing to some unknown factor or factors. This has an important bearing on the problem of comparing and standardizing BCG vaccines as it means that one vaccine cannot always be made comparable with another simply by changing the amount of BCG per dose as has been the usual practice of BCG production centres.

Effect of living and of dead organisms in vaccines

BCG vaccine heated to 80°C for two hours in order to kill the organisms was found to produce very weak but durable allergy. In fact the tuberculin reactions after vaccination with killed vaccine are larger after one year than at ten weeks indicating that allergy develops more slowly from dead than from living vaccine. Another important finding is that the allergy producing capacity of killed vaccine is greatly enhanced by the addition of very small amounts of living vaccine. Standard strength vaccine with as little as one part living and 999 parts dead organisms produces allergy at the end of one year which is practically as high as the allergy from some batches of regular presumably living standard vaccine. The significance of these findings is not entirely clear at the present time but the method suggests a way to study the question of the mechanisms of allergy production.

Effect of time and temperature of storage

The vaccines used in these studies have shown no apparent reduction in allergy producing capacity after storage in the dark at refrigeration temperature for at least two and one half months at room temperature (20°C) for one month at 30°C for one week or at 37°C for five days. There would thus seem to be no reason why most vaccines must be used within ten to fourteen days of preparation in order to obtain satisfactory allergy. Fresh vaccine for use in any part of the world could be transported at monthly rather than weekly intervals—at least if it were kept cold and not exposed to light.

Effect of volume or depth of injection

Variations in the depth of injection from very superficial to almost subcutaneous or in the volume of vaccine injected from 0.05 ml to 0.2 ml instead of the usual dose of 0.1 ml have little effect on the level of allergy produced. It is therefore very doubtful whether the technique used for intradermal vaccination can be blamed or credited for the marked differences in allergy seen in different countries.

Studies of Tuberculin Sensitivity

Tuberculosis patients in four different countries

It is not the intention of any mass BCG campaign to vaccinate persons suffering from active tuberculosis but it is inevitable that a certain number will come for examination not knowing that they have the disease. What proportion of tuberculous persons are likely to have negative tuberculin reactions and, therefore, to be vaccinated?

To answer this question groups of patients in tuberculosis sanatoria were tuberculin tested with the same technique and the same batch and dose of purified protein derivative (PPD) in four widely separated countries: Denmark, Egypt, India and the USA. All 967 patients received a Mantoux 1 TU (tuberculin unit) test; those with a reaction of less than 6 mm received 10 TU. The results showed that all the tuberculosis patients had reactions to the Mantoux 10 TU test measuring at least 6 mm: all were positive according to the usual standard.

Another, even more striking finding was that the level of tuberculin sensitivity was practically the same in the patients tested in the different countries. In fact, one could almost superimpose upon each other the distribution curves for the Mantoux 1 TU reactions of all four groups. It would be premature to interpret these results as indicating that patients all over the world react in the same way. But the possibility is suggested that a consistent level of tuberculin sensitivity is associated with tuberculous disease wherever it is found, irrespective of race, place of residence, nutrition, prevalence of intercurrent infections, and perhaps many other factors. In addition, these findings indicate that the same criterion for a positive reaction to a low dose of tuberculin can be used in different countries without fear that persons with active tuberculosis will be vaccinated by mistake.

Specificity of tuberculin reactions

In the fall of 1949 a BCG research team working in India spent several weeks in the Darjeeling area giving tuberculin tests to workers and their families living on tea plantations. Scattered over the mountainside, the tea gardens are quite close to one another yet they differ in altitude from 2 000 to 6 500 feet above sea level. Mantoux 1 TU tests were given to all of the group under study. Persons not responding with at least 6 mm of induration were given 10 TU and in turn those of this group with less than 6 mm were given 100 TU. Later analysis of the results carried out in Copenhagen revealed some remarkable findings.³

Tuberculin testing at various altitudes above sea level in this mountainous region indicated that the frequency of tuberculous infection was about the same throughout the area. However striking differences were found in the incidence of reactors to the high dose at different altitudes pointing to the existence of another unknown infection which is most prevalent at the lower altitudes. The agent causing this non specific infection is probably closely related to the tubercle bacillus as it also produces tuberculin sensitivity and thereby greatly complicates the use of the tuberculin test in selecting persons for BCG vaccination and later for measuring the effect of vaccination.

These findings supplementing those in certain other countries particularly in the USA⁴ clearly emphasize the need for intensive study of tuberculin sensitivity—how it develops and what it means especially how it may be influenced by non specific infections.

Tuberculin allergy as a family trait

For many years it has been believed that susceptibility to tuberculosis tends to run in families that the children of tuberculous parents are more predisposed to develop the disease than children of healthy parents. Scientific study of this subject has been almost impossible because factors such as the time of infection and the intensity and the duration of exposure to tuberculosis cannot be accurately determined. The influence of hereditary factors is now being studied however through the effects of BCG vaccination.

BCG produces a mild harmless tuberculous infection which in many respects resembles natural infection by virulent tubercle bacilli. But with BCG vaccination the infection unlike natural infection occurs at a known time with a relatively uniform constant and measurable dose of infecting organisms. The first of the current investigations conducted in conjunction with a BCG vaccination programme among schoolchildren in Denmark supports the age old belief in hereditary tendencies to tuberculosis by showing that there actually are family differences in the capacity of children to develop tuberculin allergy after vaccination the children in some families develop relatively strong allergy those in others quite weak allergy.

The next step is to determine if the degree of allergy developed by these children is related to the incidence of tuberculosis among their close relatives. A study now in progress may indicate whether or not allergy is related to tuberculosis immunity a question which has been discussed and argued for many years but which still remains unanswered.

P. Im. C. E. F. b. S. H. & P. I. sc. O. S. (1950) *P. b. H. h. R. p. H. h.* 65 1111
P. Im. C. E. & M. y. S. N. (1951) *P. b. H. h. R. p. H. h.* 66 259

EXECUTIVE BOARD

Tenth Session

The tenth session of the Executive Board was held from 29 May to 3 June 1952. The Board elected Dr M Jafar, Director General of Health Pakistan, as Chairman, Professor G A Canaperi (Italy) and Dr A H Taji (Iran) as Vice Chairmen. Dr S Hiyek (Lebanon) and Dr J N Togba (Liberia) as Rapporteurs.

In his opening address Dr Jafar stated that, contrary to certain opinions expressed during the Fifth Health Assembly, the distinction between developed countries and underdeveloped countries still existed. All those who lived in, or had once passed through, underdeveloped countries were aware of the untold suffering and misery existing there. Above all WHO must assist these countries to organize their public health services. The work of international teams could have no enduring results until such services existed. The most essential element in the underdeveloped countries was to facilitate the training of medical and auxiliary personnel whereas in the more developed countries it was above all essential that governments be pressed to entrust to public health administrators the tasks and responsibilities which should properly be theirs. This was the only way in which health programmes could be fruitful.

There were about thirty items on the agenda mostly of a financial and administrative nature: duration of future assemblies, technical discussions at the Sixth Assembly, the status of Associate Members, criteria for assignment to regions, facilities for certain countries to pay part of their contributions in soft currency, etc. In addition, the Board was required to deal with various questions relating to expert committees and to note some of their reports.

Expert Committees

The Board took note of the reports of the Expert Committee on the International Pharmacopoeia (tenth session) and of its Subcommittee on Non Proprietary Names (fourth session). It authorized publication of the report of the Expert Committee on Trachoma. Since there are no international regulations concerning this disease the Board referred the report to the Committee on International Quarantine for study of quarantine measures which might be taken against trachoma or measures which on the other hand might not be necessary in the case of this disease. At the present time some governments refuse entry into their territory of persons suffering from trachoma.

The Board also took note of the first report of the Joint Expert Committee on the Physically Handicapped Child (United Nations ILO

UNESCO and WHO) and authorized its publication. It recommended that this committee now extend its studies to the various categories of handicapped children and to the problems presented by these children in underdeveloped countries even though the health services of such countries might as yet be too elementary to make positive action possible. In such countries maternal and child health demonstration teams might undertake preliminary studies.

The Board reconsidered the terms of reference of the Joint FAO/WHO Expert Committee on Nutrition since FAO and WHO are jointly responsible for nutritional problems this committee will in future act as an advisory body for both organizations giving its advice on all general and technical questions and assisting the two organizations in the preparation of their respective programmes.

Technical Discussions

For the technical discussions at the Sixth World Health Assembly the Fifth Health Assembly suggested a somewhat broad subject within which the Board could choose a more restricted theme which would easily lend itself to examination in a few meetings of working groups. The Board decided to limit the discussions to the

“ study of methods of applying modern health techniques of a preventive and curative nature to give the most effective and economical results on a long term programme in relation to the following communicable diseases: (a) tuberculosis (b) syphilis and (c) the typhoid group of fevers.

These diseases are extremely important from the point of view of public health and call for attention on the part of WHO.

The whole question of technical discussions during future assemblies will be considered by the Board at its eleventh session.

Future Studies by the Executive Board

The Assembly had invited the Board as it did last year to undertake the study of two particular aspects of the functioning of WHO. Those selected for this year are (1) professional education and training programmes including fellowships (2) regional organization. The Board drew up a plan for each of these studies that with regard to education and training to include

(1) Objectives of professional and technical education and training development of WHO policies in relation to these objectives

(2) Programme of education and training services

(a) Studies of educational trends and the promotion of teaching standards

(b) Preparation of professional and auxiliary health workers (including fellowships and assistance to educational institutions)

- (c) Preparation of advanced qualified professional health workers (including fellowships and assistance to educational institutions)
- (d) Promotion of new techniques and developments
- (3) Education and training aspects of other WHO activities
- (4) Organizational implications
- (5) Outlook for future planning

Organizational and Financial Questions

In order to meet difficulties encountered by certain Member States the Board

authorized the Director General to accept currency other than US dollars or Swiss francs for such proportion of the contributions to the annual budgets as can be fully utilized

decided to undertake at its eleventh session a study of the rules and criteria for determining the assignment of Member States to particular regions

requested the Director General to ask the opinion of all Member States as to what the rights and obligations of Associate Members should be so that this question may be examined at the Board's eleventh session (WHO now has three Associate Members—Southern Rhodesia, Tunisia, and Morocco [French])

It was suggested that the Sixth Health Assembly should last two weeks with three extra days for the technical discussions. It will open on 5 May 1953. The eleventh session of the Executive Board will commence on 12 January 1953 in Geneva.

MEMBERSHIP OF THE EXECUTIVE BOARD

The designating country is given in parentheses after each member's name. Newly designated members are indicated by an asterisk (*).

Dr A. Aguilar, Director, Health Demonstration Area, Director General of Health, San Salvador (El Salvador) (*Alternate to Dr J. Allwood Paredes absent*)

Dr G. Alivizatos, Professor of Hygiene at the University and Professor of Epidemiology at the School of Hygiene, Athens (Greece)

*Dr O. Andersen, Professor of Paediatrics, University of Copenhagen (Denmark)

Dr C. van den Berg, Director General for International Health Affairs, Ministry of Social Affairs and Public Health of the Netherlands, The Hague (Belgium)

Dr A. L. Bravo, Chief, Tuberculosis Department, Public Health Service, Santiago (Chile)

Professor G. A. Canaperia, Chief Medical Officer, Office of the High Commissioner for Hygiene and Public Health, Rome (Italy) (*Vice Chairman*)

Dr S. Daengsvang, Deputy Director General, Department of Health, Bangkok (Thailand)

*Dr M. J. Ferreira, Professor of Hygiene, State Faculty of Medicine, Rio de Janeiro (Brazil)

- Dr S Hayek Chief Medical Officer Ministry of Health and Welfare Beirut (Lebanon)
Dr M Jafar Director General of Health Karachi (Pakistan) (*Chairman*)
*Dr O Leroux Assistant Director Health Insurance Studies Department of National Health and Welfare Ottawa (Canada)
Dr Melville Mackenzie Principal Medical Officer Ministry of Health London (United Kingdom of Great Britain and Northern Ireland)
Professeur J Parisot Doyen de la Faculté de Médecine de Nancy (France)
Dr A H Taba Director Health Department Iranian State Railways Teheran (Iran) (*Vice Chairman*)
Dr J N Togba Director of Public Health and Sanitation Monrovia (Liberia)
Dr H B Turbott Deputy Director General of Health Wellington (New Zealand)
Dr W G Wickremesinghe Director of Health Services Colombo (Ceylon)
- The member designated by Cuba was absent

Reports of Expert Groups

INSECTICIDE-DISPERSING EQUIPMENT

The role of insecticides in the control of certain diseases can no longer be questioned. Large scale campaigns against malaria in particular have served to confirm the importance to public health and even to food production of direct action against the insect vectors of disease. Therefore none of the factors involved in disease control with the aid of insecticides should be neglected. With this in view the Expert Committee on Insecticides at its first two sessions¹ concerned itself with specifications to which insecticide preparations should conform. At its third session held from 30 July to 4 August 1951 the committee dealt specifically with the equipment used in dispersing insecticides. The report on this session was published in August 1952 as No. 46 in the *Technical Report Series*².

Nomenclature

The committee's report establishes a standard nomenclature for the different types of sprayers and for their component parts. For the first time a list of precise definitions concerning spraying and dusting apparatus can be supplied to different countries and to manufacturers throughout the world. This attempt at a global terminology of technical expressions used in describing such equipment provides valuable even indispensable information for general users of insecticide dispersing equipment as well as for those who are especially concerned with problems of insect control.

Specifications

The tentative specifications previously adopted for stirrup-pumps are restated, in terms general enough to allow some latitude to manufacturers since slight differences in construction do not affect the efficiency of the equipment

Insecticides in dry powder form are dispersed by means of dusting apparatus. There are four general types of hand operated dusters, but the committee confines its specifications to two of them: the hand carried hand activated plunger type, and the front carried, hand activated rotary type

The report also gives specifications for various accessories such as cut off valves and clamp type hose connexions. For compression type sprayers a comparative table given in an annex makes it possible to determine whether or not commercially available sprayers meet the specifications established by the committee at its second session

Other Questions

The increasing use of mechanically operated sprayers led the committee to include in its report data comparing the efficiency and operating cost of sprayers utilizing mechanical compression with those utilizing manual compression

The report also contains a table listing the physical requirements for hose and descriptions of methods for testing hose

BIOLOGICAL STANDARDIZATION

The establishment of international standards for therapeutic substances was carried one step further by the Expert Committee on Biological Standardization at its fifth session: the report on which was published 10 August 1952 as No. 56 in the *Technical Report Series*¹

The committee established the provisional reference preparation of diphtheria toxoid plain as the international standard. This toxoid is relatively highly purified and has proved to be of the same order of potency as current therapeutic preparations in various countries. The committee authorized work preparatory to defining an international reference preparation of diphtheria toxoid adsorbed. Assignment of unitage to both of these toxoids was deferred in order to collect data on the relation between

the immunizing potency of plain and adsorbed toxoids in man with a view to assigning to the international standard for diphtheria toxoid plain a unitage approximately equivalent to that of the proposed international reference preparation of diphtheria toxoid adsorbed

An international standard for tetanus toxoid was established. It was found that a single standard can at present be used for the assay of both plain and adsorbed preparations. The international unit of tetanus toxoid was defined as the immunizing activity of 0.03 mg of the international standard.

The batch of purified protein derivative (PPD) of tuberculin prepared by Dr. Florence Seibert from a human strain of *M. tuberculosis* was accepted as the international standard for PPD mammalian tuberculin.

The committee decided to establish as the international standard for oxophenarsine the existing Joint Canadian-British standard for this arsenical.

International standards for histolytic antitoxin (second international standard), sulfarsphenamine (third international standard) and D-tubocurarine were confirmed and are now available: the first at the Statens Seruminstitut, Copenhagen, and the latter two at the National Institute for Medical Research, London.

An international reference preparation for penicillin K and provisional international reference preparations for cardiolipin and lecithin were set up.

The committee authorized work preparatory to the establishment of international reference preparations for melaminyl trypanocides and pyrogens; international standard preparations for PPD of avian tuberculin and hyaluronidase; second international standards for ACTH and penicillin; and third international standards for vitamin A and insulin.

By examining the problems of veterinary standards, the committee showed that WHO recognizes the close relationship between veterinary and human problems in medicine. International standard preparations for Q fever antiserum and *Brucella abortus* antiserum are to be established.

The standardization of diagnostic procedures was considered, and the committee recommended that WHO should investigate the desirability of publishing recommended methods of diagnostic tests such as those used for bacteriological diagnosis of tuberculosis and serological diagnosis of syphilis.

An important feature of the report is a complete and up-to-date list appearing as an appendix of all the current international biological standards.

Review of WHO Publications

MASS TREATMENT OF SYPHILIS IN AN INDIAN PROVINCE

The WHO venereal disease control demonstration carried out in Himachal Pradesh India in 1949 and 1950¹ included an experiment in mass treatment of syphilis in an isolated rural population in the Ghund area located in the foothills of the Himalayas. The results of this mass treatment project have been published in the *Bulletin of the World Health Organization*²

The seat of the government of Himachal Pradesh is Simla. The province has no railways, and roads are few; transport is by foot, horse or mule.

There are 21 hospitals and 43 dispensaries in the province, each of the latter being run by an official with some medical training who has a small stock of medicines including mercury and sulfrthiazole, at his disposal. Syphilitic persons desiring treatment buy their arsenicals in the town and have the injections administered at the dispensary. However, their very low income makes it impossible for them ever to purchase enough of the necessary drugs to effect a complete cure.

Throughout the province an indigenous system of medicine, Ayurveda, is favoured more than Western medicine. The inhabitants of the mountainous regions still make use of the medicine man and quackery is rife.

Malaria, tuberculosis, leprosy, venereal diseases, fly or water borne enteric diseases, scabies, endemic goitre, deficiency diseases, cataract diseases due to unprotected exposure to the elements—all contribute to keeping the population at a low level of health. Ignorance, promiscuity, poverty, polygamy and superstition facilitate the transmission of venereal diseases.

The demonstration team was established at Simla in May 1949. Upon its arrival a venereal disease control campaign was organized by the health services of the province. A venereologist was appointed to direct two venereal disease control dispensaries and a special laboratory and outpatient services were organized. Serological tests and treatment for positive cases were introduced in certain hospitals and in dispensaries for pregnant women. A survey of the prevalence rate of syphilis was made and training courses for physicians, nurses and laboratory workers were instituted. Within the first 17 months 29 persons had completed their professional training and some of the students had already begun venereal disease control work in at least seven hospitals and clinics of the province and country.

¹ *Chron. World Hlth Org.* 1952, 6, 90.

² *Bull. World Hlth Org.* 1952, 5, 377 (Article in English with summary in English and French).



Fig. 1. Terrain of the Ghund.



Fig. 2. Equipment of the team on the slope for the Ghund.



Fig 3 Schoolhouse used as working and living quarters at Bagain Station, Ghund. Construction is typical of the dwellings in the region.



Fig 4 Balcony of schoolhouse used as kitchen and dining room for field workers. A meal is being prepared over a primus stove.



Fig 5 Work table on dirt floor used.

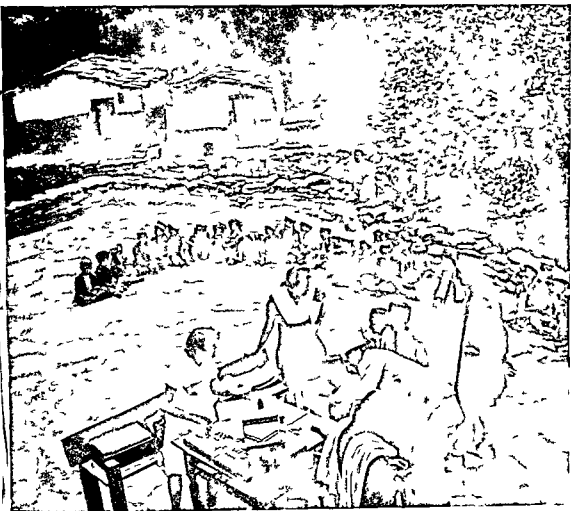


Fig 6 Schoolchild n waiting to be e mied





Fig 8 Typical hill men
of the Ghund



Fig 9 Bagain Station Ghund. The petition writer is
seated at the end of the table checking the two women
from his list and acting as interpreter. A trainee-
physician and a team nurse are observing.



For serological diagnosis the WHO team used the simplest slide tests—Meinicke and VDRL³. The Kahn standard test was also used when time and circumstances permitted. As soon as the laboratory was in a position to carry out a sufficient number of serological tests and when some idea of the different degrees of infection in the various regions had been obtained the Ghund district near Theog where syphilis seemed to be particularly widespread was chosen as the demonstration area.

The Ghund district has an area of approximately 13 square miles covering the crest and sides of a high ridge which separates the valley of the Giri from one of its tributaries. It has an elevation of 4 100 8 615 feet. The area is sufficiently isolated to obviate the introduction of new infection and the population is sufficiently stable to offer an opportunity for long term follow up surveys.

The WHO team together with the district magistrate and the local physician drew up a publicity programme for the purpose of informing the inhabitants about the aims of the team and of familiarizing them in advance with examination and treatment procedures. Very satisfactory results were achieved and in spite of a certain reluctance among some of the inhabitants the team succeeded in examining and treating nearly everyone. However it was impossible to examine children under six months old or to take blood samples from children under five years of age because their families absolutely refused permission.

In November 1949 the team moved to Durbar Ghund one of the two villages in the district Bagain being the other. This is one of the poorest villages in the whole province conditions are primitive life is hard water is scarce and sanitation is extremely summary. The report describes the attitude and medical history of the population. Syphilis is by far the most widespread of the venereal diseases. Of 354 families only 80 (22.5%) were free from syphilis.

The treatment schedule adopted by the team consisted of a single injection of 300 000 units of procaine penicillin G in oil with 2 / aluminium mono stearate. (This dosage was chosen because of the scarcity of penicillin in the province at the time of the survey supplies have since improved.) Without giving the same results as large doses of aqueous penicillin administered over a period of seven days this treatment adequately met the immediate requirements being simple and inexpensive providing a satisfactory minimum cure rate and rapidly reducing the reservoir—and hence the spread—of infection. It should be noted that, in this mass treatment project penicillin was administered before the serological results were known.

The blood samples were sent to Simla where two slide tests were performed. The quantitative determination of positive sera was carried

out by the Meinicke method. In the absence of clinical symptoms sero-positive cases were diagnosed as latent syphilis (asymptomatic), no spinal fluid examinations were made. A few doubtful or false positive cases were classed as indeterminate. Since there was no evidence of yaws or malaria, and very little of leprosy, the risk of false positive reactions was reduced to a minimum. The experience of the team in the course of a year's work gave every reason for assuming that the serological data obtained were highly accurate.

Two further surveys were made at six month intervals after the first. During the second, only 29.1% of those treated six months earlier consented to a new blood test. The inhabitants of the region are often underfed and consider that one drop of blood corresponds to a hundred drops of food. They agreed to the first test and to the treatment but saw no useful purpose in the control test.

During the third visit, a year after the first, the team was able to test only an even smaller percentage of the population. The serological titre had dropped in a very large majority of cases examined and in a certain number the reaction had become negative. Some idea of the results obtained from the treatment given may be gained from the fact that the head of the dispensary in the region declared that he had seen only about twelve new cases of syphilis in the past twelve months as against 66 in the six months preceding the treatment. It appeared also that some of the new cases observed after November 1949 originated in other areas.

From their experiences the authors conclude that large groups of people may be assembled and successfully treated even in isolated and underdeveloped rural areas and that by means of slide tests which can be easily carried out a laboratory may be established in the field and have serological results the day after blood samples have been taken. A team consisting of one or two clinicians, one serologist, one nurse, one laboratory technician, and one clerk can examine and treat up to 350 persons a day—provided they have the support of the local authorities. The Ghund survey demonstrated that the administration of 300 000 units of procaine penicillin G in oil with 2% aluminium monostearate gives adequate results.

The opposition of the population to the taking of a second blood sample after treatment indicates that it is fruitless to hope for an accurate serological evaluation of the results of mass treatment. The members of the team observe that in order to have examined and treated the resistant cases and new lesions which had appeared since November 1949 they should have given advance notice of their second visit, saying that they had come to give treatment for any sores or illnesses whatsoever. Those with open lesions and other symptoms would then have presented themselves for treatment. Moreover, if the control survey had thus been limited to treatment of new lesions and resistant cases without blood samples being taken from asymptomatic subjects it could have been carried out

by one physician eliminating the necessity of sending a whole team to the area

The report proves that in spite of all the difficulties and even in regions as little developed as the Ghund area it is possible to control venereal disease successfully keeping within the financial and medical resources of the country and without offending the susceptibilities of the population

BIOLOGY OF ANOPHELES GAMBIAE

A study entitled *Biologie d'Anopheles Gambiae* has just been published in the *Monograph Series* of the World Health Organization¹ It is particularly valuable since it represents the most recent work on the subject at present available All who are interested in the problem of malaria will find here detailed and accurate information on the behaviour of its principal vector

On the basis of the many research projects he has carried out in French West Africa the author M M Holstein Chargé de recherches de l'Office de la Recherche scientifique Outre Mer Paris undertakes to give a comprehensive picture of the biology of *A. gambiae* thus throwing fresh light on the conflicting results of certain previous studies His aim is twofold to make an exhaustive examination of those aspects of the biology of *A. gambiae* which are of interest in malaria control by insecticides and to discover and establish the existence of anopheles races or varieties

Some climatological data and a description of the research methods he employed precede the detailed study of the morphological characteristics of each phase in the life history of *A. gambiae* Individual chapters are then devoted to the biology of the early and adult stages

After examining the variations of *A. gambiae* var *melas* the author presents his theories on the existence of two forms of *gambiae* a zoophilic and an anthropophilic form differentiated by their maxillary index and their trophic preferences

An annex gives details of the geographic distribution of *A. gambiae* in Africa a table of sporozoitic indices for certain regions and a key for the graphic representation of those anopheles common in French West Africa

The study is completed by a bibliography comprising almost four hundred references

¹ Holstein M M (1952) *Biologie d'Anopheles Gambiae* R. he h z Af iq O id i le F anc i
G e (H l H l h O gani H M nog ph S ur N 9) 176 p 8 price 10 ~ \$ 00 Sw f 8 ~
P f 640

out by the Meinicke method. In the absence of clinical symptoms sero-positive cases were diagnosed as latent syphilis (asymptomatic), no spinal fluid examinations were made. A few doubtful or false positive cases were classed as indeterminate. Since there was no evidence of yaws or malaria, and very little of leprosy the risk of false positive reactions was reduced to a minimum. The experience of the team in the course of a year's work gave every reason for assuming that the serological data obtained were highly accurate.

Two further surveys were made at six month intervals after the first. During the second, only 29.1% of those treated six months earlier consented to a new blood test. The inhabitants of the region are often underfed and consider that one drop of blood corresponds to a hundred drops of food. They agreed to the first test and to the treatment but saw no useful purpose in the control test.

During the third visit, a year after the first, the team was able to test only an even smaller percentage of the population. The serological titre had dropped in a very large majority of cases examined and in a certain number the reaction had become negative. Some idea of the results obtained from the treatment given may be gained from the fact that the head of the dispensary in the region declared that he had seen only about twelve new cases of syphilis in the past twelve months as against 66 in the six months preceding the treatment. It appeared also that some of the new cases observed after November 1949 originated in other areas.

From their experiences the authors conclude that large groups of people may be assembled and successfully treated even in isolated and underdeveloped rural areas and that by means of slide tests which can be easily carried out, a laboratory may be established in the field and have serological results the day after blood samples have been taken. A team consisting of one or two clinicians, one serologist, one nurse, one laboratory technician and one clerk can examine and treat up to 350 persons a day—provided they have the support of the local authorities. The Ghund survey demonstrated that the administration of 300 000 units of procaine penicillin G in oil with 2% aluminium monostearate gives adequate results.

The opposition of the population to the taking of a second blood sample after treatment indicates that it is fruitless to hope for an accurate serological evaluation of the results of mass treatment. The members of the team observe that in order to have examined and treated the resistant cases and new lesions which had appeared since November 1949 they should have given advance notice of their second visit, saying that they had come to give treatment for any sores or illnesses whatsoever. Those with open lesions and other symptoms would then have presented themselves for treatment. Moreover, if the control survey had thus been limited to treatment of new lesions and resistant cases without blood samples being taken from asymptomatic subjects it could have been carried out

by one physician eliminating the necessity of sending a whole team to the area

The report proves that in spite of all the difficulties and even in regions as little developed as the Ghund area it is possible to control venereal disease successfully keeping within the financial and medical resources of the country and without offending the susceptibilities of the population

BIOLOGY OF ANOPHELES GAMBIAE

A study entitled *Biologie d'Anopheles Gambiae* has just been published in the *Monograph Series* of the World Health Organization¹. It is particularly valuable since it represents the most recent work on the subject at present available. All who are interested in the problem of malaria will find here detailed and accurate information on the behaviour of its principal vector.

On the basis of the many research projects he has carried out in French West Africa the author M. M. Holstein, *Charge de recherches de l'Office de la Recherche scientifique Outre Mer*, Paris, undertakes to give a comprehensive picture of the biology of *A. gambiae* thus throwing fresh light on the conflicting results of certain previous studies. His aim is twofold: to make an exhaustive examination of those aspects of the biology of *A. gambiae* which are of interest in malaria control by insecticides and to discover and establish the existence of anopheles races or varieties.

Some climatological data and a description of the research methods he employed precede the detailed study of the morphological characteristics of each phase in the life history of *A. gambiae*. Individual chapters are then devoted to the biology of the early and adult stages.

After examining the variations of *A. gambiae* var. *melas* the author presents his theories on the existence of two forms of *gambiae*: a zoophilic and an anthropophilic form, differentiated by their maxillary index and their trophic preferences.

An annex gives details of the geographic distribution of *A. gambiae* in Africa, a table of sporozoitic indices for certain regions and a key for the graphic representation of those anopheles common in French West Africa.

The study is completed by a bibliography comprising almost four hundred references.

¹ Holstein M. M. (1955) *Biologie d'Anopheles Gambiae*. R. A. H. Afr. O. Id. et f. anc. G. (W. Id. H. lth. O. ganiz. ti. n. M. g. ph. S. N. 9) 176 p. g. s. price 10/ \$ 00 Sw. f. 8 — Fr. f. 640

STATISTICS TWO NOTEWORTHY PUBLICATIONS

In its *Annual Epidemiological and Vital Statistics* series, WHO has just published the second of two volumes covering the war period 1939-46 entitled *Cases of and Deaths from Notifiable Diseases*¹ and the first volume for the period 1947-9, entitled *Vital Statistics and Causes of Death*. These two publications will be of great value to all those who are interested in statistics.

It had not previously been possible to assemble coherently figures relating to notifiable diseases for the period of the war. The war political upheavals, changes in frontiers and mass migrations made regular registration of infectious diseases impossible in a great number of countries. In some instances the relevant documents were either destroyed or lost. The task of finding, assembling, checking and correcting existing data was enormous. Although there are gaps and imperfections in the statistics finally collated by WHO, they nevertheless constitute the only official international document for the period.

In preparing the volume concerning notifiable diseases, duly revised data from official publications were used as well as replies to questionnaires addressed to national health administrations and statistical offices. The notifiable diseases—30 in number—range from plague to puerperal infection and include the rickettsioses, malaria, leprosy, syphilis, influenza, and communicable diseases of childhood. Figures for cases and deaths are given for more than 150 States or territories.

The work is presented in a clear and practical manner. A large table is devoted to each disease and shows, by country and for each of the years from 1939 to 1946, the total annual number of cases and of deaths and the number of cases and deaths per month or per four week period, in order to show the very interesting seasonal fluctuations. At the end of each table certain countries are included for which only annual totals are given, either because the total figures were the only data available or because they were too small to be broken up into periodic figures; similarly only the annual figures are given for about a dozen diseases which have no marked seasonal characteristics. Full notes are appended to all the tables.

The work *Vital Statistics and Causes of Death 1947-1949* is a large volume of 746 pages. The data are drawn from official reports published by national and municipal statistical and public health administrations, from supplementary information furnished by those administrations, and from the replies of various countries to certain questionnaires sent out by the Statistical Office of the United Nations.

World Health Organization (1952) *Annual Epidemiological and Vital Statistics 1939-1946* Part II
Geneva 60 pages Price £1.84.0 Sw. frs 16.—
Bilingual edition: French and English

World Health Organization (1951) *Annual Epidemiological and Vital Statistics 1947-1949* Part I
Geneva 746 pages Price 70.—\$10. Sw. frs 40.—
Bilingual edition: French and English

The tables of figures are preceded by a foreword and an introduction in which there are some comments on natality and mortality rates. In 1949 the highest birth rate was in Guatemala (51.5 per 1 000 inhabitants) and the lowest in Trieste (10.6 per 1 000). As compared with the average for 1936-8 the birth rate increased in 59 countries and decreased in 20 others. The most marked increase was in Panama (Canal Zone) where the birth rate rose from 10.0 in 1936-8 to 32.5 in 1949. The biggest drop was in Paraguay—23.5 in 1949 as against 36.0 in 1936-8. In six countries (Guatemala, British Guiana, Venezuela, Bahamas, Faroe Islands, Iceland) there was a constant increase in the birth rate for the period 1946-9; in one country only—Italy—was there a steady decrease.

In 1949 the lowest general mortality rate was that of Northern Rhodesia with 5 deaths per 1 000 inhabitants. The highest mortality rate was in Greenland—41.4 per 1 000. In all countries with the exception of Greenland where a whooping-cough epidemic caused the death in that year of nearly all children under the age of one year, the 1949 mortality rate was lower than that of 1936-8 and in most countries there was a steady decrease between 1946 and 1949.

A chapter giving the area and population of the countries of the world and the population of selected large cities according to the most recent censuses is followed by vital statistics for the years 1946-9: nuptiality, natality, fertility according to the age of the mother, reproduction rate, general mortality, specific mortality rates by age and by sex, infant mortality and neonatal mortality. For purposes of comparison the mean figures for the period 1936-8 or for some prewar series are also mentioned in most of the tables.

The chapter on the causes of death is by far the longest in the volume; it gives the distribution of the total deaths by cause in accordance with the headings of the 1938 International Abridged List. These data are shown by sex for the period 1946-9 and then by sex and by age for each year separately. Other tables are devoted to the mortality rates for specific diseases in about 50 large towns and in selected groups of towns; deaths of children under five years from selected causes by age and by sex; and deaths from cancer and tuberculosis according to location, age and sex. Finally there are extracts from some very recent mortality tables, mortality coefficients, number of survivors and expectation of life by sex and at certain ages. An annex contains graphs showing the evolution from the beginning of the century of mortality from specified infectious diseases in some countries, geographical maps of the various regions of the World Health Organization and a list of WHO Member States as of 31 December 1951.

An alphabetical index is included for convenience in consulting this voluminous work.

Obviously as stated in the foreword, these statistics should be treated with a certain amount of caution and care should be exercised in making comparisons based on them. The diversity in the methods of registration in the various countries, and the lack of precision and the gaps in the certificates of causes of death still prevent the statistics for different countries from being entirely comparable.

CANCER MORTALITY IN THE TWENTIETH CENTURY

A double number of the *Epidemiological and Vital Statistics Report* is devoted to cancer mortality between 1900 and 1949 in fifteen European and eight non European countries¹.

The author, Dr M. Pascua, Director of the Division of Health Statistics, quotes the words of Professor Greenwood of 25 years ago: 'It is probable that by the gradual improvement in accuracy and completeness of the medical statistics of all nations we can best prepare the way for a really illuminating survey of the cancer problem.'

This work contains cancer mortality figures by year, by sex, by site of tumour, and by age for each country studied whenever possible. The introduction and notes accompanying the tables of figures are no less important than the tables themselves. Graphs are included to illustrate the conclusions drawn.

Like all statistics based on certificates giving the cause of death covering very different countries and particularly disturbed periods, these figures are necessarily incomplete. In some cases the causes of death were not registered; in others the archives were destroyed by war. Nor are the figures as exact as they should be. There are various reasons for this, but the chief source of inaccuracy is the methods of filling out death certificates. For example: (1) in some countries a national nomenclature is used which bears no relation whatever to the international nomenclature which has itself been revised five times during the period in question; (2) certificates often mention the metastasis which has finally caused the death of the patient instead of the initial tumour; (3) certificates do not mention cancer if a cancer patient has died from some intercurrent disease; (4) at the request of families physicians issuing certificates sometimes indicate some cause of death other than cancer since there are still prejudices in this connexion.

On the other hand, deaths due to other causes are often diagnosed as being due to cancer while those due to cancer may in turn be attributed

¹ *Epidem. vital. Statist. Rep.* 1952, 5: 1143

to other causes. Nevertheless there has been considerable progress in diagnosis during the past 50 years. Today it is possible to detect tumours which could not be diagnosed in 1900. It is a fact for example that the proportion of deaths due to "senility" or to "unknown or ill defined causes" has dropped considerably in most countries. There is no doubt that *formerly many deaths due to cancer were entered under these headings*. This accounts to some extent for the increase in the number of deaths notified as due to cancer. The ageing of the population is another factor in this increase since cancer principally attacks persons of the older age groups. The tables in the volume in question demonstrate that the percentage of persons over the age of 60 years has increased in nearly all countries and that in some it has doubled and even trebled as in Denmark.

The following conclusions may be drawn from this publication

1 There are very marked differences in cancer mortality in the various countries studied both as to the total number of deaths and as to the relative degree of importance of the various localizations of tumours

2 On the basis of the official population figures and on the number of deaths officially attributed to cancer cancer mortality has clearly increased in nearly all the countries under consideration. Is this due to a very slow progressing and not declining epidemic or to an apparent increase due to progress in diagnosis and to better medical certification of causes of death? That is a question which it is difficult to answer

3 As regards age there has been a marked increase in recorded cancer mortality among persons in the older age groups over 70 years. Nevertheless it must not be forgotten that the number of deaths attributed to senility or to causes of death unknown or ill defined has decreased

4 Mortality from cancer of the buccal cavity and pharynx and from neoplasms of the skin has not increased in many countries it has even diminished

5 The rates of increase in mortality from cancer of the digestive organs and peritoneum vary very significantly from country to country and also from one sex to the other within the same country. The available data are very divergent and irregular

6 The number of deaths from cancer of the lungs has risen considerably everywhere. In some countries there were 25 times more deaths from cancer of the lungs in 1949 than in 1900 and there has been a constant increase from 1900 to 1949 as in England and Wales. In this connexion the author refers to the work of the Medical Research Council London on the dangers of tobacco smoking. *Undoubtedly there are other factors which may have contributed to this spectacular increase*. Cancer of the lungs is perhaps one of the forms of cancer which is more easily diagnosed today than 50 years ago

7 Mortality from cancer of the uterus has remained stationary or has decreased to some extent

8 There has been a constant increase in the number of deaths due to cancer of the breast

9 The mortality rate from cancer of the urinary organs has increased in both sexes but particularly in men

Dr Priscu emphasizes the fact that this study is very incomplete. For example the relationships between cancer and race and between cancer and occupation have not even been touched upon since national statistics with regard to these subjects are still scarce and fragmentary. If the study of the problem of cancer mortality is to be fruitful it will be necessary to obtain far more satisfactory statistics than those presently available

Notes and News

Protocol Ending Brussels Agreements on Potent Drugs Signed

The Protocol terminating the 1906 and 1929 Brussels Agreements for the Unification of the Formulæ of Potent Drugs was signed at Geneva on 20 May 1952 by 16 countries. Dr P. J. J. van de Calseyde (Belgium) presided at the ceremony.

The governments which signed the Protocol propose to replace the prescriptions of the two Brussels Agreements by the corresponding prescriptions laid down in the *Pharmacopœa Internationalis*.

The Protocol will enter into force when ten States parties to either or both of the Brussels Agreements have become parties to the Protocol and certification has been transmitted by the Belgian Government to the Secretary General of the United Nations.

The following Governments have signed the Protocol: Belgium, Denmark, Egypt, Federal Republic of Germany, Finland, France, Grand Duchy of Luxembourg, Greece, Iceland, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland, and United States of America. In addition to these the following States are also parties to the Brussels Agreements: Austria, Bulgaria, Byelorussian Soviet Socialist Republic, Cuba, Hungary, Poland, Rumania, Switzerland, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, Vatican City, and Yugoslavia.

Publication on International Health Organizations

In *International health organizations and their work* Dr Neville M. Goodman, a former Assistant Director General of the World Health Organization, gives the first comprehensive account of the origins and present extent of international health work.

After an introductory chapter which answers the question "Why International Health?" Dr Goodman describes the history of quarantine and of the various International Sanitary Conferences. Further chapters are devoted to the Office international d'Hygiène publique, the Health Organization of the League of Nations, the health work of UNRRA and the World Health Organization. The work of old and new regional health organizations, other intergovernmental agencies concerned with health, and voluntary agencies in the international health field is also described. At the end of each chapter there is a bibliography and a Note on Sources.

With the publication of this book there is now available a standard work of reference for all those who wish to know more of the history, purposes, and scale of international co-operation on health matters.

Vaccination against Yellow Fever

The Executive Board at its tenth session approved the Instituto de Medicina Tropical, Lisbon, Portugal, as an authority qualified to issue international certificates of immunity against yellow fever. A complete list of the centres authorized to issue international vaccination certificates against this disease was published in June as a Supplement to the *Weekly Epidemiological Record*.*

Health Survey in Korea

At the request of the United Nations Korean Reconstruction Agency (UNKRA) WHO has agreed to undertake a health survey in Korea. This survey will provide the basis of plans for a long range health programme financed by UNKRA. Within the first six months WHO experts will present a preliminary report; more detailed surveys of specialized fields such as hospital planning, training of nurses, etc., will follow. Mr J. Donald Kingsley, Agent General for Korea, has emphasized the need for immediate action in view of the unsettled military situation. WHO has already sent to Korea a team comprising eleven medical officers, five public health engineers, and five public health sanitarians. At the beginning of 1952 this team, which was assigned to emergency relief work, was transferred to UNKRA, and since then WHO has helped to recruit additional medical and auxiliary personnel for health work in Korea.

Seven Agreements between Iraq and WHO

At the beginning of April 1952 the Iraqi Government and WHO signed seven agreements under the terms of which WHO offers assistance to Iraq in projects involving leprosy control, rural health, malaria, the creation of a tuberculosis centre and a maternal and child health centre, BCG vaccination, and the teaching of modern research methods. The antimalaria project is already under way (see page 290).

The tuberculosis demonstration and training centre, which is being set up in Baghdad, will probably be ready by the end of the year. The Iraqi Government has already assigned a fund for this purpose and chosen a site, and the team which will run the centre is being assembled. In view of the proposed BCG vaccination campaign, provision is being made to give tuberculin tests to about 800,000 children within two years.

Since the incidence of leprosy in Iraq is high, WHO is to send an expert to study the epidemiological characteristics of the disease there and to advise the government on how best to combat it. It is also expected that the equipment of the leprosy colony at Amara will be modernized.

7 Mortality from cancer of the uterus has remained stationary or has decreased to some extent

8 There has been a constant increase in the number of deaths due to cancer of the breast

9 The mortality rate from cancer of the urinary organs has increased in both sexes but particularly in men

Dr Piscus emphasizes the fact that this study is very incomplete. For example the relationships between cancer and race and between cancer and occupation have not even been touched upon since national statistics with regard to these subjects are still scarce and fragmentary. If the study of the problem of cancer mortality is to be fruitful it will be necessary to obtain far more satisfactory statistics than those presently available

Notes and News

Protocol Ending Brussels Agreements on Potent Drugs Signed

The Protocol terminating the 1906 and 1929 Brussels Agreements for the Unification of the Formulae of Potent Drugs was signed at Geneva on 20 May 1952 by 16 countries. Dr P. J. J. van de Calseyde (Belgium) presided at the ceremony.

The Governments which signed the Protocol propose to replace the prescriptions of the two Brussels Agreements by the corresponding prescriptions laid down in the *Pharmacopoea Internationalis*.

The Protocol will enter into force when ten States parties to either or both of the Brussels Agreements have become parties to the Protocol and certification has been transmitted by the Belgian Government to the Secretary General of the United Nations.

The following Governments have signed the Protocol: Belgium, Denmark, Egypt, Federal Republic of Germany, Finland, France, Grand Duchy of Luxembourg, Greece, Iceland, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland, and United States of America. In addition to these the following States are also parties to the Brussels Agreements: Austria, Bulgaria, Byelorussian Soviet Socialist Republic, Cuba, Hungary, Poland, Rumania, Switzerland, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, Vatican City, and Yugoslavia.

Publication on International Health Organizations

In *International health organizations and their work*¹ Dr Neville M. Goodman, a former Assistant Director General of the World Health Organization, gives the first comprehensive account of the origins and present extent of international health work.

tions have not yet been attempted in Sarawak if this first project succeeds the method will be used in a campaign covering the whole territory

Tuberculosis and BCG

BCG vaccination campaign in Aden ends

A BCG vaccination campaign began in Aden last January its aim being the tuberculin testing of children and adolescents under 18 years of age. The international team with the help of government health officials finished its task in May after having tested more than 31 000 children vaccinated 8 000 of them and retested most of the school population. Local personnel have been instructed in BCG vaccination methods. They will be assisted in continuing the campaign for another year by supplementary aid in the form of equipment and supplies from the United Nations International Children's Emergency Fund (UNICEF). The vaccine used was prepared by the State Serum Institute Agouza, Cairo.

BCG team in Sarawak goes into action

A team of BCG vaccination specialists left Manila at the same time as the malarialogist referred to above and will stay about nine months in Sarawak to demonstrate the most practical methods of BCG vaccination and to train personnel to carry on the work. The team will first vaccinate some 50 000 people in major centres of the colony all children and young persons will then be given tuberculin tests and the negative reactors vaccinated. The two team chiefs Dr Ole Hagen of Norway and Nurse Eva Friis of Denmark have previously worked with the International Tuberculosis Campaign the former in Poland and India the latter in Germany and Egypt.

Venereal Diseases

Control campaign in Egypt

The Egyptian Ministry of Public Health and WHO have selected the village of Edfah (population 9 000) near Sohag as the site of the first intensive campaign ever undertaken against skin and venereal diseases in Upper Egypt. Edfah is one of the many villages which labourers leave for work in the ports and urban areas of Egypt.

After blood specimens have been taken the patient will be treated and the epidemiology of venereal diseases in the country will be studied to determine whether the labourers carry these infections back to their villages from the urban areas. Measures will then be taken to ensure as far as possible treatment of the patients before they return to their homes. This survey is expected to have considerable repercussions throughout the country.

The clinical field work at Edfah will be carried out by an Egyptian team comprising two physicians a hakim six nurse-aids two social workers and administrative personnel. All were trained at the Hod El Marsoud Hospital in Cairo by the WHO advisory team to Egypt and its matching staff. The course covered the newest serological methods as well as the administrative and social aspects of such a project. Members of various social services also took part and will voluntarily assist in the campaign.

Blood specimens taken at Edfah will be sent to Cairo for examination by the WHO team which will at the same time continue its demonstrations and training courses for other Egyptian personnel.

This campaign which is scheduled to last for four to six weeks is directed by Dr I. H. Nagi Bey, Director of the Venereal Disease Section, Egyptian Ministry of Public Health and his assistant Dr M. Afifi. It represents the first step in a national programme of venereal disease control in the development of which other international agencies may be asked to assist.

Malaria

Malariaology courses

Under the auspices of the World Health Organization two international courses in malariaology were organized this year—one chiefly for the European Region in Lisbon Portugal and the other for the African Region in Lagos Nigeria.

The course in Lisbon was under the direction of Professor F. J. C. Cambournac and was given at the Malaria Institute of Aguiar de Moura and at the Institute of Tropical Medicine in Lisbon. It began on 16 June 1952 and lasted two and a half months. WHO invited experts from several countries to participate as lecturers—as was done last year for the same course given in Lisbon.

The African malaria course which was organized by the Malaria Service Medical Department Government of Nigeria was directed by Dr L. J. Bruce Chwatt and was held from 2 June to 30 July 1952. His Excellency the Governor of Nigeria opened the series. WHO for this course as for that at Lisbon invited foreign experts to take part in the teaching—Sir Gordon Covell, Dr P. F. Russel and Mr M. H. Holstein.

For both courses the Organization granted a certain number of fellowships. The course in Europe can be considered somewhat as a continuation of the tradition established by the Malaria Commission of the League of Nations in 1926. The African malaria course was the result of a recommendation formulated at the Malaria Conference in Equatorial Africa which took place in Kampala, Uganda in November-December 1950.¹

WHO team begins work in Iraq

One of the seven agreements concluded in April between Iraq and WHO aimed at the control of malaria. Since May a member of the WHO malaria team has been making on the spot preparations in Baghdad. At the beginning of July he was joined by the Indian malariaologist Dr Sonti Dakshina Murty, former chief of the malaria section of the Ministry of Health in Madras and now team leader, and by Mr François Lachance, parasitologist who was previously attached to the Defence Research Board of Canada. Malaria control demonstrations were to begin at the end of July in the Tigris Valley Sulaymaniyah, northwest of Baghdad—a region selected for its particularly high incidence of malaria.

Control operations begin at Taiwan (Formosa)

A WHO team arrived at Chao Chow on 15 May. The DDT and other supplies sent by WHO were already awaiting them; the remainder of the insecticides and sprayers required will be provided by the local government and the Mutual Security Agency of the USA. This campaign is likely to be particularly effective since the species of malaria vector in Taiwan is very susceptible to DDT, the fact that Taiwan is an island may well facilitate the complete eradication of the disease. Moreover a network of antimalaria dispensaries is already in existence and excellent roads make the malarious areas easily accessible. Spraying began in the south of the island and spread to the more densely populated districts where malaria is rife among the rice farmers and coal miners.

Sarawak preliminary survey

A WHO malaria adviser left Manila at the beginning of July for Sarawak where he will help the local authorities to fight malaria—one of the two scourges of this territory, the other being tuberculosis. The adviser will first set up a pilot project to determine whether spraying the inside walls of houses is effective in this region. Three species of anophelids are suspected of transmitting malaria. Large scale residual spraying opera-

tions have not yet been attempted in Sarawak if this first project succeeds the method will be used in a campaign covering the whole territory

Tuberculosis and BCG

BCG vaccination campaign in Aden ends

A BCG vaccination campaign began in Aden last January its aim being the tuberculin testing of children and adolescents under 18 years of age. The international team with the help of government health officials finished its task in May after having tested more than 31 000 children vaccinated 8 000 of them and retested most of the school population. Local personnel have been instructed in BCG vaccination methods. They will be assisted in continuing the campaign for another year by supplementary aid in the form of equipment and supplies from the United Nations International Children's Emergency Fund (UNICEF). The vaccine used was prepared by the State Serum Institute Agouza, Cairo.

BCG team in Sarawak goes into action

A team of BCG vaccination specialists left Manila at the same time as the malaria logist referred to above and will stay about nine months in Sarawak to demonstrate the most practical methods of BCG vaccination and to train personnel to carry on the work. The team will first vaccinate some 50 000 people in major centres of the colony all children and young persons will then be given tuberculin tests and the negative reactors vaccinated. The two team chiefs Dr Ole Hagen of Norway and Nurse Eva Friis of Denmark have previously worked with the International Tuberculosis Campaign the former in Poland and India the latter in Germany and Egypt.

Venereal Diseases

Control campaign in Egypt

The Egyptian Ministry of Public Health and WHO have selected the village of Edfah (population 9 000) near Sohag as the site of the first intensive campaign ever under taken against skin and venereal diseases in Upper Egypt. Edfah is one of the many villages which labourers leave for work in the ports and urban areas of Egypt.

After blood specimens have been taken the patients will be treated and the epidemiology of venereal diseases in the country will be studied to determine whether the labourers carry these infections back to their villages from the urban areas. Measures will then be taken to ensure as far as possible treatment of the patients before they return to their homes. This survey is expected to have considerable repercussions throughout the country.

The clinical field work at Edfah will be carried out by an Egyptian team comprising two physicians a hakim six nurse aids two social workers and administrative personnel. All were trained at the Hod El Marsoud Hospital in Cairo by the WHO advisory team to Egypt and its matching staff. The course covered the newest serological methods as well as the administrative and social aspects of such a project. Members of various social services also took part and will voluntarily assist in the campaign.

Blood specimens taken at Edfah will be sent to Cairo for examination by the WHO team which will at the same time continue its demonstrations and training courses for other Egyptian personnel.

This campaign which is scheduled to last for four to six weeks is directed by Dr I. H. Nagi Bey, Director of the Venereal Disease Section, Egyptian Ministry of Public Health and his assistant Dr M. Afifi. It represents the first step in a national programme of venereal disease control in the development of which other international agencies may be asked to assist.

Introduction of penicillin treatment in Ethiopia

The Ethiopian Ministry of Public Health with the technical assistance of WHO has introduced at Addis Ababa mass penicillin treatment for venereal diseases. WHO sent a team of three specialists to Ethiopia and the Filoha and Tekla Haimanot clinics have been placed at their disposal. Serological tests will be carried out in the laboratories of the Institut Pasteur of Ethiopia. The project will include a survey of the distribution of venereal diseases throughout the country—it is already known that the incidence of syphilis is high. The two principal members of the team working at Addis Ababa are Dr J. F. Marques, former head of the Department of Venereology of the Lisbon Health Centre, and Dr R. Netter, until recently Chief of the Laboratories at the Claude Bernard Hospital, Paris.

Cerebrospinal Meningitis in the Sudan

The incidence of cerebrospinal meningitis in the Sudan has increased from 6 000 cases in 1950 to 57 000 in 1951. In actual fact, since news spread of the cures achieved with sulfonamides, cases are reported far more frequently. Treatment with sulfa drugs has not, however, succeeded in halting the epidemic. WHO specialists sent from Khartoum suggested an alternative method: instead of treating only the reported cases, the entire population might be injected with procaine penicillin in oil, thus reducing the incidence of the disease below the danger line which results in an epidemic. This method has been put to the test in two villages in the Nuba Mountains in the province of Kordofan. In other villages sulfa drugs are being administered to all the inhabitants.

Survey of Industrial Health Conditions in Iran

Iran, which has improved legislation to protect the health of workers, has requested the help of two international organizations in putting these laws into effect. WHO (through its Eastern Mediterranean Office) and the International Labour Organisation have therefore appointed a specialist in industrial health to survey the health conditions of factories in Iran and to advise the Ministry of Health on how to improve them. The specialist, Dr Léon Lewis, of Berkeley, California (USA), will visit the major towns of Iran to study conditions among miners, workers in handicrafts and carpets, and match and tea factories.

Views on WHO

International Pharmacopoeia

In a review of G. M. Findlay's *Recent advances in chemotherapy* (3rd ed. Vol. 1, 1950), appearing in a recent issue of the *Quarterly Review of Biology* (1951, 26: 443), C. Jelleff Carr makes the following comment:

"Findlay has succinctly pointed out the 2 main factors which act as brakes on

the progress of chemotherapy: the present unsatisfactory classification of bacteria and the confusion that results from the multiplicity of names given by national pharmacopoeial committees, proprietary firms, and non-official compendia. The attempt which the World Health Organization is making to tackle this very complicated problem will win the praise of pharmacologists, clinicians, and chemists alike."

The Work of WHO 1951

The *Medical Officer* (1952 87 168) pays a tribute to the work of WHO in a review of the 1951 *Annual report of the Director General*

"The report on the work of the World Health Organisation during the year 1951 is an imposing document of importance to all mankind but it will not receive the attention that it merits. We doubt if one person in 1 000 will hear of it and only about one in 100 000 possess it. The United Nations took over the health organisation from the League of Nations without any alteration of its aims and philosophy but being a much more powerful body than the defunct League it can do much which the League wanted to do but was powerless to perform. The United States by refusing to join damned the League from its inception but she did take part in the health organisation and now as the predominant partner in the United Nations she is enthusiastic to further the work of WHO to reach its goal. Its aim is a universal health service as near perfection as applied science can make it so as to give all persons on earth equal chances of attaining health. For this purpose it encourages all national and voluntary agencies which have health as their object. Its main work at present is to help those countries where the health services are poorly developed or which present special problems which their national

governments are unable to solve without outside aid. On request WHO will help any nation to advance its health programme with technical advice and when necessary with equipment and personnel without infringement of national aspirations or sovereignty.

"Countries with a highly developed health service do not need help of this kind but indirectly they gain much benefit from WHO for disease has no national frontiers and the health of one country is largely dependent upon that of others. Moreover every country benefits greatly from the researches which WHO carries out and which no single country could pursue on the same scale.

International Hygiene as a reality originated in the Office d'Hygiène Publique established in 1907 and now taken over by WHO in which Sir George Buchanan took an active part. It began in a small way with a limited objective but Buchanan visualised its extension and had he lived would have appreciated this latest annual report of WHO with great satisfaction.

WHO covers an enormous field its activities reach from such purely local and topical matters as helping a backward country to establishing a system of nursing to ridding the earth of pestilences. The annual report is not a book for every body but all engaged in health work will find something of interest in it. It is well got up beautifully printed and profusely illustrated.

WORLD HEALTH ORGANIZATION

TECHNICAL REPORT SERIES

	Number	Date of publication		Price			
Antibiotics Expert Committee on Report on the first session	26	October 1950	9d	\$0 10	Sw	fr	0 40
Bilharziasis in Africa Joint OIHP/WHO Study Group on Report on the first session	17	August 1950	9d	\$0 10	Sw	fr	0 40
Biological Standardization Expert Com mittee on Report on the third session	2	February 1950	1/6	\$0 20	Sw	fr	0 80
Report on the fourth session	36	April 1951	9d	\$0 10	Sw	fr	0 40
Fifth report	56	July 1952	1/3	\$0 15	Sw	fr	0 60
Report of the Subcommittee on Fat Soluble Vitamins	3	February 1950	9d	\$0 10	Sw	fr	0 40
Brucellosis Joint FAO/WHO Expert Panel on Report on the first session	37	May 1951	2/	\$0 25	Sw	fr	1 —
Cholera Expert Committee on First report	52	May 1952	1/3	\$0 15	Sw	fr	0 60
Cholera Joint OIHP/WHO Study Group on Report on the third session	18	December 1950	1/3	\$0 15	Sw	fr	0 60
Communicable Diseases of Childhood Ac tive immunization against common Report of a group of consultants	6	March 1950	1/3	\$0 15	Sw	fr	0 60
Drugs Liable to Produce Addiction Expert Committee on Report on the second session	21	March 1950	9d	\$0 10	Sw	fr	0 40
Third report	57	March 1952	9d	\$0 10	Sw	fr	0 40
Environmental Sanitation Expert Commit tee on Report on the first session	10	May 1950	2/	\$0 25	Sw	fr	1 —
Second report	47	June 1952	1/3	\$0 15	Sw	fr	0 60
Health Statistics Expert Committee on Report on the first session	5	March 1950	9d	\$0 10	Sw	fr	0 40
Report on the second session (includ ing reports on the first sessions of the Subcommittees on the Definition of Stillbirth and Abortion on the Registration of Cases of Cancer as well as their Statistical Presentation and on Hospital Statistics)	25	October 1950	2/	\$0 25	Sw	fr	1 —
Third report (including second report of the Subcommittee on the Regis tration of Cases of Cancer as well as their Statistical Presentation)	53	July 1952	2/9	\$0 35	Sw	fr	1 40

	Number	Date of publication		Price
Hygiene of Seafarers Joint ILO/WHO Committee on				
Report on the first session	20	September 1950	9d	\$0 10 Sw fr 0.40
Insecticides Expert Committee on				
Report on the first session	4	October 1950	2/3	\$0.30 Sw fr 1.20
Report on the second session	34	May 1951	4/3	\$0 55 Sw fr 2.20
Third report	46	August 1952	2	\$0 25 Sw fr 1 —
Fourth report	54	1952	<i>To be published</i>	
International Pharmacopoeia Expert Committee on (formerly Expert Committee on the Unification of Pharmacopoeias)				
Report on the fourth session	1	January 1950	9d	\$0 10 Sw fr 0.40
Report on the fifth session	12	May 1950	9d	\$0 10 Sw fr 0.40
Report on the sixth session	29	October 1950	1 3	\$0 15 Sw fr 0.60
Report on the seventh session (including report on the first session of the Subcommittee on Non Proprietary Names)	35	April 1951	1 6	\$0 20 Sw fr 0.80
Report on the eighth session (including report on the second session of the Subcommittee on Non Proprietary Names)	43	November 1951	2	\$0 25 Sw fr 1 —
Ninth report (including third report of the Subcommittee on Non Proprietary Names)	50	May 1952	2	\$0 25 Sw fr 1 —
International Sanitary Regulations				
World Health Organization Regulations No 2	41	July 1951	5	\$0 65 Sw fr 2.60
Malaria Expert Committee on				
Report on the third session	8	May 1950	2/3	\$0 30 Sw fr 1.20
Report on the fourth session	39	April 1951	1 6	\$0 20 Sw fr 0.80
Malaria Conference in Equatorial Africa				
Report	38	April 1951	3 6	\$0 45 Sw fr 1.80
Malnutrition Prevention and treatment of severe in times of disaster				
Report of a group of consultants	45	November 1951	2 9	\$0 35 Sw fr 1.40
Maternity Care Expert Committee on				
First report a preliminary survey	51	June 1952	1/3	\$0 15 Sw fr 0.60
Mental Health Expert Committee on				
Report on the first session	9	May 1950	2 3	\$0.30 Sw fr 1.20
Report on the second session	31	April 1951	2/9	\$0 35 Sw fr 1.40
Alcoholism Subcommittee				
Report on the first session	42	September 1951	1 3	\$0 15 Sw fr 0.60
Second report	48	1952	<i>To be published</i>	
Nursing Expert Committee on				
Report on the first session	24	November 1950	1 6	\$0.20 Sw fr 0.80
Second report	49	June 1952	1/3	\$0 15 Sw fr 0.60

	Number	Date of publication	Price
Nutrition Joint FAO/WHO Expert Committee on			
Report on the first session	16	June 1950	1/3 \$0 15 Sw fr 0 60
Report on the second session	44	November 1951	3/ \$0 40 Sw fr 1 60
Plague Expert Committee on			
Report on the first session	11	October 1950	1/6 \$0.20 Sw fr 0 80
Prematurity Expert Group on			
Final report	27	October 1950	9d \$0 10 Sw fr 0 40
Professional and Technical Education of Medical and Auxiliary Personnel , Expert Committee on			
Report on the first session	22	December 1950	2/ \$0.25 Sw fr 1 —
Public Health Administration Expert Committee on			
First report	55	1952	<i>To be published</i>
Rabies Expert Committee on			
Report on the first session	28	November 1950	1/6 \$0.20 Sw fr 0 80
Rickettsioses (African) Joint OIHP/WHO Study Group on			
Report on the first session	23	December 1950	1/3 \$0 15 Sw fr 0 60
School Health Services Expert Committee on			
Report on the first session	30	April 1951	2/ \$0 25 Sw fr 1 —
Tuberculosis , Expert Committee on			
Report on the fourth session	7	April 1950	1/3 \$0 15 Sw fr 0 60
Report on the fifth session	32	April 1951	9d \$0 10 Sw fr 0 40
Veneral Disease Control in the USA			
Report of the WHO Syphilis Study Commission	15	May 1950	3 6 \$0 45 Sw fr 1 80
Veneral Infections and Treponematoses Expert Committee on			
Report on the third session	13	May 1950	1/6 \$0 20 Sw fr 0 80
Subcommittee on Serology and Laboratory Aspects			
Report on the first session	14	May 1950	2/ \$0.25 Sw fr 1 —
Report on the second session	33	April 1951	1/6 \$0 20 Sw fr 0 80
Yellow Fever Panel			
Report on the first session	19	August 1950	9d \$0 10 Sw fr 0 40
Zoonoses Joint WHO/FAO Expert Group on			
Report on the first session	40	May 1951	2 3 \$0.30 Sw fr 1 20

Bulk Orders

A discount of 20% will be given to health organizations for orders of 100 copies or more. Such orders should be sent direct to the World Health Organization Sales Section, Palais des Nations, Geneva, Switzerland.



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
International certificates of vaccination	287
The International Treponematoses Laboratory Center	290
Regional Committee for Africa second session	292
Reports of Expert Groups	
Modern methods of trachoma control	297
Review of WHO Publications	
First International Symposium on Chemical Microbiology	300
A rapid method for the serodiagnosis of syphilis	301
World incidence of diphtheria during recent years	303
World incidence of poliomyelitis in 1951	306
Prevalence of leprosy in the world	308
Reports from WHO Fellows	
Child psychiatry in the USA	312
Notes and News	
Regional seminar on vital and health statistics for the Western Pacific	314
Maternal and child health demonstration project in Formosa	314
Leprosy specialist on assignment in Burma	314
Aid to Indian medical college	315
DDT factory in India	315
Occupational health survey in Egypt	315
New tuberculosis centre in Egypt	315
WHO seals	316

SCHEDULE OF MEETINGS

29 September 4 October	Expert Committee on Mental Health third session Geneva
4-10 October	Expert Committee on Bilharziasis first session Puerto Rico
13-18 October	FAO/WHO Joint Expert Panel on Brucellosis second session Florence
20-25 October	Expert Committee on Biological Standardization sixth session Geneva
24-29 October	Expert Committee on Public Health Administration second session Geneva
27 October 1 November	Expert Committee on the International Pharmacopoeia eleventh session Geneva
2-4 November	Expert Committee on the International Pharmacopoeia Subcommittee on Non Proprietary Names fifth session Geneva
10-15 November	Expert Committee on Antibiotics second session Geneva

INTERNATIONAL CERTIFICATES OF VACCINATION

Quarantine practice underwent a radical change towards the end of the 19th century—no longer was a whole ship together with its complement of passengers and crew subjected to quarantine isolation. A more rational view prevailed and quarantine measures were applied to the infected individual rather than to his means of transport and to the other persons on board.

The advent and rapid expansion of air travel after the first World War created special problems. The speed with which a person could travel by air from an endemic or epidemic centre of a disease to an area previously protected because of the fact that travel by sea took longer than the incubation periods of the major infectious diseases so obviously increased the risk of spread of infection as to necessitate the drawing up of a code of agreed international practice for aerial navigation in order adequately to deal with the new problem. The result was the International Sanitary Convention for Aerial Navigation of 1933.

In this Convention certain advantages as regards restrictive measures were granted to persons who could produce satisfactory evidence that they had been vaccinated against either cholera or smallpox or both as the case might be. The proof of vaccination was to be a written certificate officially authenticated. These were the first two examples of international certificates of vaccination recommended to be in the possession of travellers on international journeys.

In 1944 the International Sanitary Convention of 1926 relating to sea traffic and the International Sanitary Convention of 1933 applicable to aerial navigation were revised. Annexed to the texts of these revised Conventions were model forms on which certificates to be known as international certificates of inoculation and vaccination could be written and on these forms a space was provided for endorsement by means of an official stamp. The immunizing procedures for which such certificates were annexed were against the two diseases mentioned in previous Conventions—i.e. smallpox and cholera—and against two additional diseases—yellow fever and typhus. Persons in possession of such certificates were accorded certain privileges on arrival at their destination.

It has to be understood however that in quarantine practice vaccinations and inoculations are not primarily intended to protect the traveller; their object is to prevent the importation of communicable disease into a territory. In this connexion it had been brought to the notice of the Interim Commission of WHO that since the second World War there had developed a widespread tendency on the part of national health administrations to require from travellers certificates of immunization irrespective of the value of such immunizations for the protection of the countries reached.

SCHEDULE OF MEETINGS

29 September 4 October	Expert Committee on Mental Health third session Geneva
4-10 October	Expert Committee on Bilharziasis, first session Puerto Rico
13-18 October	IAO/WHO Joint Expert Panel on Brucellosis second session Florence
20-25 October	Expert Committee on Biological Standardization sixth session Geneva
24-29 October	Expert Committee on Public Health Administration second session Geneva
27 October 1 November	Expert Committee on the International Pharmacopoeia eleventh session Geneva
2-4 November	Expert Committee on the International Pharmacopoeia Subcommittee on Non-Proprietary Names, fifth session Geneva
10-15 November	Expert Committee on Antibiotics second session Geneva

national quarantine practice. The Organization feels that the use of insecticides with residual effect should be the chief form of international action against these diseases. Therefore no reference to vaccination against plague and typhus or to certification thereof appears in the International Sanitary Regulations except for the provision that vaccination against plague or typhus shall not be required as a condition of admission of any person to a territory.

In the light of the foregoing it is anticipated that after the lapse of a few months during which the transition from the International Sanitary Conventions to the International Sanitary Regulations will take place the demands made on individual travellers as regards possession of certificates of vaccination should be much less onerous and more reasonable than heretofore. It has to be observed however that the old —type certificates of vaccination or inoculation issued under the International Sanitary Conventions will if issued prior to 1 October 1952—the date on which the International Sanitary Regulations come into force—continue to retain their validity during the periods indicated thereon. It is possible therefore that during the next few years two different certificates of vaccination against smallpox, cholera or yellow fever will be in use—both types being equally valid.

The World Health Organization publishes the blank forms and models of the *International Certificates of Vaccination* in yellow-covered booklets.

FIG 1 INTERNATIONAL VACCINATION CERTIFICATE BOOKLETS

U N I T E D N A T I O N S — N O U V E A U
WORLD HEALTH ORGANIZATION
O R G A N I S M E I N T E R N A T I O N A L D E S A N T E

International Certificate
of Inoculation and Vaccination

Certificat international
de Vaccination



INTERNATIONAL SANITARY REGULATIONS
RÈGLEMENT SANITAIRE INTERNATIONAL

WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE SANTÉ



INTERNATIONAL CERTIFICATES
OF VACCINATION

CERTIFICATS INTERNATIONAUX
DE VACCINATION

Name _____
Date _____
Place _____
Signature _____
Official _____

by the travellers or indeed for that of the travellers themselves. The Interim Commission was also aware of the many disadvantages inherent in the compulsory production of many immunization certificates and considered that the serious obstruction to free and rapid travel caused by such requirements was often out of proportion to the protection likely to be afforded to the country of arrival.

Therefore when the Interim Commission began in 1946 its task of revising the International Sanitary Conventions and similar agreements with a view to ensuring more effectively than had previously been possible the maximum security against the international spread of disease with the minimum interference with world traffic it did not overlook the need for simplifying and for reducing to the lowest number compatible with essential requirements the certificates of immunization to be carried by a traveller on an international journey. That this need has now been met is evidenced in the *International Sanitary Regulations*¹ which drawn up by WHO between 1948 and 1951 in continuance of the work of the Interim Commission unanimously adopted in May 1951 by the Fourth World Health Assembly and due to enter into force on 1 October 1952, provide in this respect for forms and models of international certificates of vaccination only against smallpox, cholera, and yellow fever. Moreover in accordance with the terms of one of the Articles of these Regulations *no certificate of vaccination, other than for the three diseases just mentioned, shall be required in international traffic*.

In regard to certificates of immunization and to immunizations against quarantinable diseases the following remarks may prove of interest.

Vaccination against smallpox is of established value but although the possession of an *International Certificate of Vaccination or Revaccination against Smallpox* may be required of all travellers by a health administration this requirement should in normal circumstances be limited to arrivals from smallpox infected areas or suspects.

Anticholera vaccination has proved in practice to be of value in prophylaxis and evidence of vaccination against the disease as furnished by the *International Certificate of Vaccination or Revaccination against Cholera* is taken into consideration in the application to travellers of the relevant measures permitted under the Regulations.

Complete reliance is placed on vaccination against yellow fever and as a result persons holding a valid *International Certificate of Vaccination or Revaccination against Yellow Fever* are exempt from all the quarantine measures to which they would otherwise be subjected on account of that disease.

WHO is of the opinion that vaccination against plague and typhus though of value in the protection of the individual has no place in inter-

¹ *World Health Organization Report* 1951 41. See also *Official Records of the World Health Organization* 1951 37 and *Ch. II* of the *World Health Organization Regulations* 1951 5.

the control of the treponemal diseases—syphilis yaws bejel and pinta. Its principal function was to supplement the work of the field teams and regional laboratories and in particular to investigate problems which while of a fundamental nature in respect to the control of these diseases could not be adequately studied in the field.

During the two years of its existence the work of the Center has been concentrated largely on the investigation of two problems (1) a study of the biological characteristics of strains of treponemes isolated from patients with different clinical syndromes in various parts of the world and (2) an investigation of the sensitivity to penicillin of strains of *Treponema pallidum* *T. pertenue* and bejel treponemes. In order to pursue these studies it was necessary to isolate suitable strains of treponemes from patients with classical symptoms of one or another of the treponematoses. In accomplishing this the personnel of the International Treponematoses Laboratory Center has had the full co-operation of WHO field teams regional laboratories and the professional and administrative staffs of the regional offices and of the Secretariat in Geneva.

Rabbits and hamsters were sent by air from the Center to the field teams which selected typical cases of syphilis yaws or bejel and transferred infective material from them to the laboratory animals. The animals were then returned promptly by air to the Center where they could be maintained under cool conditions which are known to enhance the pathogenicity of the infecting organisms.

Twelve strains of *Treponemata* have been successfully isolated—two from southeastern Europe five from the Middle East two from the southwestern Pacific area two from the West Indies and one from North America. Of these strains two have been from typical cases of endemic syphilis three from venereally acquired syphilis four from yaws and three from bejel. In addition attempts have been made to isolate strains of pinta spirochaetes but while two strains of treponemes were demonstrated in hamsters for two passages each the strains were not perpetuated beyond this point.

The comparative study of these strains of treponemes from various parts of the world has proved to be most interesting. As a broad generalization it can be said that there is a close immunological relationship among all the strains regardless of the clinical syndrome or the area of the world from which they are isolated. On the other hand the disease picture induced in laboratory animals while qualitatively similar differs in certain respects depending upon the clinical syndrome from which the organisms were obtained.

As for the reaction of these strains of treponemes to penicillin both in vivo and in vitro tests indicate that the susceptibility to this drug is of the same order of magnitude for all strains.

Reproduced in fig. 1 are the front covers of the booklets containing on the one hand the old type of certificate issued under the Conventions and on the other the new type of certificate issued under the Regulations. Briefly the differences between the old and the new types are as follows:

Certificate of vaccination against smallpox It is now no longer necessary for the result of the vaccination to be recorded except in the case of a primary vaccination. The certificate of a person revaccinated therefore becomes valid immediately.

Certificate of vaccination against yellow fever The validity of this certificate has under the Regulations been extended to six years as compared with four years under the Conventions.

Certificate of vaccination against cholera This certificate from the point of view of the ordinary international traveller has remained unchanged.

It is important to note that the principle of authentication by a local health authority of the signature of the person performing the vaccination was not accepted in the Regulations so that in the majority of instances a traveller will be furnished with a certificate on completion of the vaccinating procedure and will not be called upon to make a further journey in order to get it authenticated.

The vaccination and inoculation certificate requirements of some 160 countries and territories are published early in each year as a supplement to the *Weekly Epidemiological Record* of WHO. Any amendments or additions to the requirements are published in the *Record* as soon as the details are received by the Organization. To keep the information in the supplement up to date—and it is important that this should be done if inconveniences to travellers are to be avoided—it is essential to make alterations to the information given in it in accordance with the amendments appearing each week in the *Record*.

THE INTERNATIONAL TREPONEMATOSIS LABORATORY CENTER *

Through support of the World Health Organization, Johns Hopkins University was enabled in 1950 to establish the International Treponematoses Laboratory Center as a unit within the Department of Microbiology of the School of Hygiene and Public Health. This Center was envisioned as an integral part of the WHO worldwide programme directed towards

This report was prepared by Dr. T. B. Turner, Professor of Bacteriology and Director of the International Treponematoses Laboratory Center, Johns Hopkins University, Baltimore, Md., USA.

Second Session of the Regional Committee

The Regional Committee for Africa which has the responsibility of considering all the health problems of Africa met for the first time in September 1951 in Geneva ¹ it held its second session from 31 July to 7 August 1952 at Monrovia Liberia—meeting for the first time on African soil It was also the first time that an international conference had taken place in Liberia Seven Member States of WHO were represented Belgium France Liberia Portugal Spain Union of South Africa and the United Kingdom of Great Britain and Northern Ireland the delegate of the Associate Member Southern Rhodesia was unable at the last moment to attend Delegates of the five European Member States were accompanied by advisers from the various countries of Africa The committee elected Dr F J C Cambournac (Portugal) as Chairman Dr S L A Manuwa (United Kingdom) as Vice Chairman and Dr M Kivits (Belgium) as Rapporteur

The Director of the Regional Office Dr F Daubenton described the activities of the Office during the period between the two sessions in a report which is hereunder summarized

Report on Regional Activities

For the year 1952 the first step has been to become acquainted with African health problems by means of surveys Two of the three public health officers recommended for recruitment by the committee at its first session have already been at work for several months they have visited numerous countries and territories studied the prevailing conditions determined the role which WHO might usefully play and suggested several projects to local authorities For each of the major problems WHO has sent a competent specialist to specific areas The Organization has also drawn upon the experience of people who have worked for a long time on the continent and who alone can furnish exact and detailed information on present needs and social economic and cultural conditions of a certain locality

For Africa as a whole the most urgent problems are nutrition and environmental sanitation Next in importance are malaria tuberculosis yaws bilharziasis onchocerciasis trypanosomiasis yellow fever rabies and leprosy In planning control measures against any of these diseases another problem of fundamental importance arises—lack of medical and auxiliary personnel

These results have important implications for treponematoses control programmes for they suggest that the basic biology of the different clinical syndromes is very similar and that from a medical standpoint, what is learned about the control of one treponemal disease can probably be readily applied to another. On the other hand there may still be important epidemiological or sociological features which require more individualistic approaches. Studies are now being directed to determining if possible the basis for the differences observed among the isolated strains and to an attempt to modify the characteristics of a particular strain through changes in the experimental conditions.

REGIONAL COMMITTEE FOR AFRICA

Second Session

The Region for Africa

Of all the WHO Regions, Africa is probably the least well known. Unlike Asia, Africa has never been traversed by highways. Its rivers, intersected by rapids, have never served as a means of penetrating the interior. Distances are enormous and the bush is often impassable. As a result, communities in the heart of Africa are isolated from each other, differ considerably in culture, ways of living, religion, and language (more than 700 languages are spoken in Africa), and do not have the same economic and health problems—nor the same attitude with regard to the same problems. Before preparing health programmes for the Region for Africa, WHO must become more familiar with the people who inhabit the continent. And of the three divisions which will comprise the Regional Office for Africa—the medical, the sanitary engineering, and the medico-sociological—the last dealing with medico-sociology, will be of considerable importance.

The diversity of the problems in nutrition is an example. Give some idea of the complexity of all the problems in Africa: malnutrition prevails in numerous territories but WHO cannot prepare with the collaboration of the governments a general programme which would be valid for all the continent. While in Uganda the basic food is the banana elsewhere it may be millet or rice or another grain and while many Africans do not eat enough meat it may be in one tribe because livestock is too scarce in another tribe because meat is taboo and in a third, simply because it is not the custom. In certain villages in which fowl are plentiful no one would think of using eggs for food. Milk is not consumed at all in certain regions and in others it is kept for the aged. There are tribes in which the women never eat vegetables which are believed to make them less desirable to their husbands.

programme and UNICEF. An expert visited the Cameroons and French West Africa in July to put the finishing touches on a malaria-control programme organized by the French authorities which will have the collaboration of UNICEF. The first malaria training course was held in June and July at Lagos, Nigeria². This course was addressed to English speaking doctors but it is intended to organize a similar one for French speaking doctors next year perhaps in the Cameroons.

Other health problems

Tuberculosis has had a tendency to become more prevalent in Africa during recent years. To avoid duplication of the work of metropolitan tuberculosis control organizations, WHO maintains close contact with specialists sent by these organizations or by governments.

Yaws control has the same priority as malaria control in some countries. In Liberia, for example, yaws control is part of the same five year programme mentioned under malaria control.

The WHO bilharziasis survey was continued throughout the year and will perhaps be followed by a conference on this disease. Although sleeping sickness is becoming increasingly rare in Africa, research on trypanosomiasis continues and a meeting on this subject was to take place in September at Lorenzo Marques, Mozambique. A rabies-control programme will probably be undertaken in Kenya and in Northern and Southern Rhodesia.

A nurse who has worked in Africa as an instructor for many years has been appointed by WHO to undertake a survey in preparation for a conference on nursing, particularly on the training of nursing personnel.

A psychiatrist familiar with conditions in Africa is to study certain psychiatric and psychological problems in anticipation of a conference on the psychology of the African child which is being arranged in Brazzaville by the International Children's Centre and in which WHO will participate. In general, mental health in darkest Africa is less of a problem than it is in the more developed countries.

Professional education and training

Until now the Regional Office for Africa has approved fellowships for all candidates brought forward by governments. The training of doctors and other health personnel is of first consideration in raising the health standards of Africa. Fellowships for 1953-4 will aid in training personnel in nutrition, environmental sanitation, tuberculosis, maternal and child health, malaria, yaws, onchocerciasis, nursing, bilharziasis, rabies, etc.

Nutrition

The representatives of the countries of Africa all recognize the importance in their territories of diseases caused by malnutrition - But one cannot speak of a nutrition problem in Africa because as pointed out above, it is a question of many problems of different origins, depending on the country and the tribe

The Food and Agriculture Organization (FAO) and WHO sponsored at Marseilles (April to July 1952) a nutrition course for doctors of all nationalities who are working in Africa. In September 1952 nutrition and maternal and child health experts left for the Belgian Congo and French Equatorial Africa, where they are going to complete plans for a programme in which FAO and the United Nations International Children's Emergency Fund (UNICEF) will participate. Also at the request of the Commission for Technical Co-operation in Africa South of the Sahara (CTCA) WHO is collaborating in preparations for CTCA/FAO/WHO conference on nutrition, which will take place in November at Fajara, Gambia

Environmental sanitation

Environmental sanitation is still an urgent and many sided problem in Africa. The question of water is probably the most serious - so long as Africans do not have adequate supplies of safe drinking water, the control of tropical diseases such as bilharziasis and amoebic dysentery will remain largely ineffective. But the problem is not a simple one, since Africa has rainy seasons lasting several months followed by months of total dryness. The construction of reservoirs is not often possible for it would be too costly to be practical inasmuch as the population is scattered over such great distances. Another problem is to teach Africans to construct healthy homes and simple latrines. All this represents long term but essential work.

A sanitary engineer went in January to the Seychelles, at the request of the Government. He is now in Angola where he is working on an environmental sanitation programme with the authorities of the country. In November he will go to Pretoria Union of South Africa to attend a conference on housing in Africa.

Malaria control

Malaria control has priority in all of French Africa and in Liberia. In the latter country a five year plan for malaria control was prepared last December and will be carried out with aid from the technical assistance

One of these diseases, kwashiorkor, has been the object of an FAO WHO survey and report. See *Ch on World Hlth Org* 195 6 61

Reports of Expert Groups

MODERN METHODS OF TRACHOMA CONTROL

The Third and Fourth World Health Assemblies considering that trachoma and other related ophthalmias constituted an urgent health problem in many countries requested the Expert Committee on Trachoma to recommend effective preventive measures against these diseases ¹ and to study the problem of trachoma with a view to submitting practical recommendations as to the possibility of successfully eradicating it by the application of modern methods of control ² The results of studies undertaken during the past 18 months under the auspices of WHO and of the treatment of several thousands of patients have led to certain conclusions contained in the first report of the Expert Committee on Trachoma which was published in September as No. 59 in the *World Health Organization Technical Report Series* ³

Prophylaxis of Trachoma in International Traffic

The committee particularly stressed that trachoma in the present state of knowledge should be considered only slightly contagious. It also pointed out that a clear distinction should be made in sanitary legislation between measures applicable to travellers in transit and those applicable to immigrants. With regard to such measures the committee made the recommendations which follow

Travellers in transit

While persons suffering from chronic forms of trachoma—which are of low infectivity—need not be subjected to quarantine measures this is not the case for persons suffering from the acute forms and wanting to undertake an international journey. The latter should undergo treatment which might make them non-contagious. They might then be subjected to surveillance by the sanitary authorities of the country through which they are passing or in which they are staying temporarily. When deciding on whether the disease is at an infectious or non infectious stage

OFF R W Id Hth O r 35 27

OFF R W Id Hth O r 28 23

World Hlth O r t h R p S 1952 59 P bl h d m E gl h d F h P ce l 3d \$0.15

o Sw f 0.60

The training of nurses and midwives is already part of the technical assistance programme, and it is understood that WHO will take part in this training. A health inspector has been in Liberia since February to train native sanitary inspectors.

Dr Daubenton expressed the hope that many Africans will soon have acquired sufficient training to work in all the countries of their continent and to apply for posts in the Regional Organization. The recruitment of personnel for the Organization is difficult and constitutes a problem which must be solved partially at least before transfer of the Regional Office to Brazzaville.

Committee Decisions

The Regional Committee for Africa discussed and approved the programme and the budgetary provisions for the years 1953-4. It decided that priority projects which will certainly be launched during these two years, even if the credits assigned to them are slightly reduced, should be the following:

- control of nutritional diseases in French Equatorial Africa, Belgian Congo and Ruanda Urundi; a nutrition survey in Northern Rhodesia and in the territories of Basutoland, Swaziland, and Bechuanaland,

- environmental sanitation projects in Angola—already in preparation—in Kenya and in the Seychelles (1954)

- malaria control projects in all of French Africa and in Liberia, Gambia, the Gold Coast and Nigeria,

- tuberculosis survey followed by control measures in the territories of Basutoland, Swaziland and Bechuanaland and in Liberia, Mauritius, Nigeria, Nyasaland, Southern Rhodesia and Sierra Leone,

- yaws control in Liberia and Nigeria, measures against whooping cough in Mauritius, a survey of bilharziasis in Kenya and Liberia and a survey of yellow fever in Northern Rhodesia.

The committee decided to submit to the WHO Executive Board a proposal that Dr Daubenton should continue as Regional Director for a year, until he reaches retirement age, following which he should be succeeded by Dr F. J. C. Cambournac, chief of the Portuguese delegation.

The next meeting of the committee will take place at Kampala, Uganda, in September 1953. Future meetings will be held alternately in East Africa and in West Africa, though a meeting place in southern or central Africa might also be chosen, and invitations from governments will be considered.

person to another it is advisable to use the least toxic products—e.g. potassium and sodium salt of *p* sulfonamido phenyl azosalicylic acid sulfacetamide polysulfonamide mixtures dimethyl sulfanilamido isoxazole Aureomycin and terramycin are the two antibiotics which have proved most effective

The committee considered the following as the minimum therapy which can be carried out with every hope of obtaining a large percentage of cures

(a) Application of aureomycin or terramycin 1 ointment four times daily without interruption for a period of two months

(b) Evaluation of results and selection of resistant cases

(c) For the resistant cases only institution of the mixed treatment local treatment being continued without interruption but with the addition of one of the above mentioned sulfonamides given orally in a dose of 40-50 mg per kg of body weight daily. This dose must be administered in at least two parts and must be adjusted with respect to the number of daily administrations the larger the number the smaller the dosage. The doses should be spaced out as regularly as possible over the 24 hours and should be continued for three consecutive weeks. The usual precautions should be taken to detect reactions among those under treatment

(d) Depending on the change in the clinical picture and in the absence of cure a second and even a third course of sulfonamide treatment similar to the first should be given with an interval of ten days between each course

Control in Underdeveloped Countries

The report states that although trachoma control calls for a large number of staff its cost is relatively low since the price of the necessary drugs is moderate from the point of view of the community and the expenditure is to a large extent compensated by the considerable economic value of the restoration to health of the workers. For example in Tunisia alone with a population of 3 500 000 inhabitants about 25 000 000 working days per year are lost through trachoma and other eye diseases

The committee considered that in order to succeed action against trachoma should include the following

(1) appropriate legislation adapted to the social economic cultural and administrative development of the country

(2) health education of the people which should be developed to the greatest possible extent by all available means and by modern propaganda techniques adapted to local conditions

(3) organization of specialized control consisting of a permanent network of fixed and mobile centres distributed over the whole of the territory in which trachoma is endemic. This network should be under the technical direction of a central organization—an institute of trachoma and eye diseases

the existence of complications and corneal or palpebral sequelae should not be considered but only the stage reached by the concomitant trachoma

Migrants

Candidates for emigration should be examined in their countries of origin on two occasions separated by an interval of not less than two months. Any persons suspected of trachoma in the first of these examinations should be sent back to the competent ophthalmological service for examination and treatment, if necessary. When presenting themselves for the second examination they might be provided either with a certificate to the effect that they are not suffering from trachoma or with a certificate of cure. The committee considered that in certain circumstances a country of immigration could accept persons suffering from evolutive trachoma if effective treatment could be continued in that country.

Classification of Stages of Disease

Numerous difficulties are encountered in the interpretation of medical certificates by health and quarantine officials owing to the absence of any universally adopted classification of the various stages of trachoma and the existing uncertainty with regard to the degree of infectivity of trachoma in its various stages. It is because of these difficulties that the committee recommended that the MacCallan classification in its most simple form (Tr I II III IV) should be universally adopted and that in the present state of knowledge only stages I, II, and III of the disease (Tr I, Tr II and Tr III) should be considered as more or less infectious, stage IV (Tr IV) should be considered as non infectious.

A number of notation systems which have been proposed in recent years for scientific use afford indisputable advantages by adding to the above mentioned classification a reflection of the clinical picture of the illness. The committee therefore proposed that some of these new features be embodied in the MacCallan classification for the purpose of establishing a new classification to meet the needs of specialists and of scientific research. Details of this new system of notation are given in the committee's report.

Treatment

Basing its conclusions on several thousand patients treated the committee was of the opinion that the majority of cases of trachoma can be cured by chemotherapy and antibiotic therapy. The most effective treatment is the simultaneous use of certain antibiotics with sulfonamides the former administered locally and the latter orally. However in view of the toxic properties of some sulfonamides and the variation in tolerance from one

Various possible explanations of the mechanism involved in the adaptation of micro organisms to antibiotics are advanced in a number of articles one of which deals particularly with the genetic aspects of the problem. One of the studies on fermentation techniques describes a spargerless fermenter. The chemistry of terramycin is dealt with in another article. Experiments are discussed which show the stimulating effects of antibiotics on the growth of swine and poultry—a factor already being exploited commercially. The antifungal properties of certain new antibiotics and the interesting therapeutic possibilities opened up are outlined. An international problem to which the discovery of new antibiotics has given fresh emphasis is summed up in a paper setting forth the requirements for the establishment of biological standards.

The papers were read by C. N. Hinshelwood, L. Califano, D. D. Woods, J. Monod, S. S. Sokhey, E. B. Chain, M. J. Johnson, P. P. Regna, A. A. Miles, E. M. Weber, S. A. Waksman, M. Welsch, L. L. Cavalli, R. Robinson, B. C. J. G. Knight, A. Lwoff, L. Camici and A. Tonolo.

A RAPID METHOD FOR THE SERODIAGNOSIS OF SYPHILIS

The WHO Venereal Disease Demonstration Team operating in India discovered a rapid method for carrying out serological tests. Previously the practice was to take blood samples during the day and to perform the serological tests later during the evening, subjects giving a positive reaction were examined and treated the next day.¹

Unfortunately a great number of patients failed to return on the following day since the inhabitants of the region were not sufficiently educated to appreciate the importance of treating syphilis. With the assistance of the local authorities the team endeavoured to round up those suffering from the disease but in most villages they had to content themselves with examining and treating only 20 / to 30 / of the cases diagnosed as positive. The ideal procedure would have been to carry out the serological tests directly after taking the blood sample quickly enough to enable the patients to await the results on the spot so that those giving positive reactions could be examined and treated immediately.

The most rapid test known is the slide modification of the Meinicke reaction. It requires only one drop of serum and results can be read 25 minutes after obtaining the serum. To increase the rapidity with which the reaction could be determined it was necessary to bring about clotting

¹ Th. does t ref to th Gh d a perime t (see CA H. Id fifth O r 1952 6 266) in wh h
pen li does t ref to th Gh d a perime t (see CA H. Id fifth O r 1952 6 266) in wh h
pen li does t ref to th Gh d a perime t (see CA H. Id fifth O r 1952 6 266) in wh h

The committee recognized the effectiveness of large scale projects for the control of trachoma and other infectious eye diseases when their incidence is high and pointed out that the aim of such control projects is to reduce the sources of infection and the number of cases in the specified area. All sufferers from the disease, particularly infants and children, should be treated. It is known that children suffer from more active and infectious forms of trachoma than adults. If these forms can be eliminated the incidence of the disease will be greatly diminished. In addition to the treatment of patients campaigns against trachoma and other infectious eye diseases should include organized fly control.

Review of WHO Publications

FIRST INTERNATIONAL SYMPOSIUM ON CHEMICAL MICROBIOLOGY

Microbial Growth and Its Inhibition

Leading specialists from many parts of the world participated in a symposium held in Rome, Italy, from 25 to 30 June 1951, on the subject of microbial growth and its inhibition with particular reference to the antibiotics. This symposium, which was organized by the Istituto Superiore di Sanità in collaboration with the Council for the Co-ordination of International Congresses of Medical Sciences and WHO, marked the inauguration of the International Research Centre for Chemical Microbiology. Eighteen of the papers presented on this occasion have been published as No. 10 in the *World Health Organization Monograph Series*.¹

Contributions range from an examination of the physiological principles underlying the antagonism between certain micro organisms and antibiotic substances to a description of the new laboratory techniques of antibiotic production. The subjects discussed include the structural relations of natural substances belonging to certain chemical groups, the contribution of microbial kinetics to a solution of the problem of the adaptation of micro organisms to antibiotics and other drugs, the role of folic acid and of vitamin B₁₂ in microbial metabolism and inhibition phenomena, the origin of the lag phase in the growth of certain bacteria, the induction and inhibition of the synthesis of adaptive enzymes, and the bacteriophage and lysogenic bacteria.

¹ *World Health Organization Monograph Series No. 10* + 86 pages, 67 figures, 38 tables, price 15/- \$3.00 Fr. fr. 960 — Sw. fr. 1.— M. d. la langue edition ont n. g. articles n. either English or French, with summaries in both languages.

WORLD INCIDENCE OF DIPHTHERIA DURING RECENT YEARS

The *Epidemiological and Vital Statistics Report* for May 1952 included under the above title a study on the incidence of diphtheria since the second World War¹ In 1947 an article was published on the incidence of this disease during the war and in the immediate post war period² at that time it was estimated that during the war the number of cases notified annually in Europe was more than 600 000 Since then the situation has considerably improved Europe continues to be the continent most affected by diphtheria but in most countries there has been a continual decrease in the number of annual notifications For Europe as a whole (or rather for those European countries for which statistics are available) notifications dropped between 1947 and 1951 from 183 000 to 69 000

The figures for Africa are hardly comparable with those for Europe Notifications for 1950 which was the peak year barely exceeded those in Austria alone Diphtheria incidence has increased to some extent in Algeria French Morocco and Tripolitania but the figures remain low There has been a continuous upward trend in the Union of South Africa since 1947 and the 1950 and 1951 figures were higher than the maximum recorded during the twelve preceding years

In America the figures have remained much lower than in Europe In 1945 the year of highest incidence there were only 33 000 cases in all the American countries and territories in 1950 this figure fell to 15 000 In Canada notifications for 1951 represented only 8.5% of the pre war median figure In the USA the total number of notifications fell between 1947 and 1951 from 12 405 to 4 138 notifications for 1951 amounted to hardly 14% of the median pre war figure In Mexico also the situation has improved there were only 1 236 cases in 1950 as against 2 946 in 1942 On the other hand incidence of diphtheria in certain small countries and territories is relatively high in Costa Rica and Puerto Rico 380 and 408 cases respectively were reported in 1950—almost as many as for the whole of Canada

In Asia so far as can be judged from the data available the number of notifications has declined in Japan and has increased elsewhere In Japan the figures were lower in 1947 than the median for the years 1935-9 From 1947 to 1951 the number of recorded cases fell from 28 342 to 10 743 On the other hand the number of cases notified increased at Shanghai Hong kong Bangkok and in Ceylon Nevertheless the number of notifications in these areas remains low and the increase is due partly to the improvement

of the sample as quickly as possible. It had been shown in isolated cases that the necessary amount of serum could be centrifuged out after the sample had been kept in a water bath at 37°C for 15 to 30 minutes. The team tried out this method on 15 February 1951 in the village of Junga. It was then found that the heat of the sun could serve the same purpose as the water bath. Less than an hour after taking the sample, the results of the test could be given to the team physicians, who immediately examined and treated the positive cases.

All the samples taken during this first experiment were sent to the Simla laboratory and again subjected to the Meinicke test as well as to the VDRL test (developed by the Venereal Disease Research Laboratory, Chamblee, Ga., USA). The results agreed so satisfactorily that the team applied the system in six other villages. When it was not possible to make use of the sun, a water bath was improvised. It was found that under the rather uncertain conditions of field installations, a team of three persons—a serologist, a technician, and a strong man to turn the centrifuge—could test 250 to 300 blood samples a day.

Not all positive reactors were, in fact, treated, for the simple reason that there were too many for the clinicians to handle. The team was working in areas where the incidence of syphilis was generally around 40%. It is obvious that under such circumstances there would have to be a larger number of clinicians in the team if the system were to be applied successfully. On the other hand, in an area where syphilis is less prevalent, the laboratory team would have to be increased to be able to diagnose a sufficient number of cases to keep even a small clinical team occupied.

Of 1,431 samples tested on the spot by this method, 605 or 42.3% were found to be positive and 826 or 57.7% negative. The results of the Meinicke test carried out in the Simla laboratory agreed with those obtained by the rapid method in 98.5% of the cases. The discrepancies concerned almost exclusively cases giving very weak positive or doubtful positive reactions. The VDRL tests gave a larger number of positive reactions than the Meinicke. As was to be expected in the light of previous work, the cases showing a Meinicke negative and VDRL positive reaction were usually cases which had already been treated for syphilis or cases giving a false positive reaction.

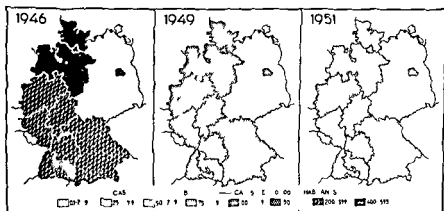
The experiment was convincing: the rapid method in which the blood sample is warmed and the Meinicke slide test used is the most practical and the most effective method for underdeveloped areas in which syphilis is very prevalent.²

Summary of an article in *British Medical Journal* 1953, 2, 473. Kvittingen, J., McCullough, J. C., Tampieri, B. & Bhalla, J. J. "Significance of rapid serological testing for syphilis in field surveys."

in registration since the end of the war. In Cyprus, Iran, Iraq, Israel and the Republic of Lebanon the number of notifications has in most cases increased.

In Europe where diphtheria incidence is by far the highest, notifications in general have decreased as has been stated (see fig. 2). Nevertheless incidence remains very high in certain countries—particularly in Austria, Germany, Italy and Poland. In 1949 almost as many cases were registered in these four countries together as in all the other countries of the world for which data were available. In the territory of the Federal Republic of Germany however there has been a 75% decrease in diphtheria incidence as compared with the pre-war median (see fig. 3). In certain regions the

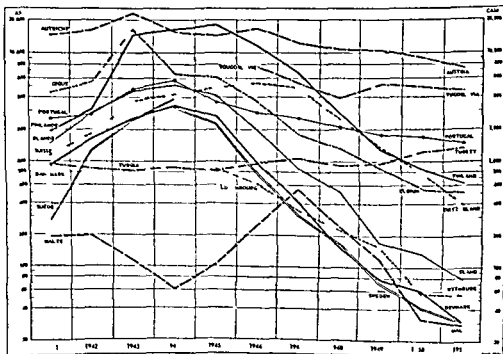
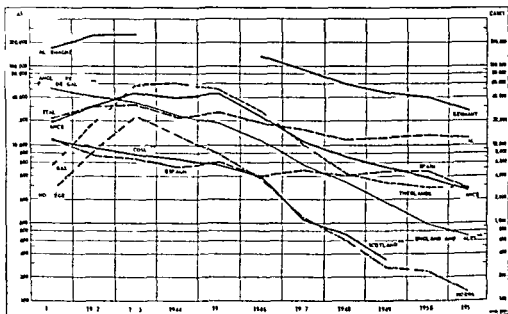
FIG. 3. DISTRIBUTION OF DIPHTHERIA IN GERMANY



Western sectors only

1951 figures are only 6.1% to 9.2% of those for 1946. Incidence remains high in Austria and although the 1951 figure of 7.414 cases or 107 per 100,000 inhabitants is the lowest since 1940, this still represents a rate approximately twice that of the Federal Republic of Germany. In Italy the number of notifications has not varied very much over the country as a whole. The annual figures remain somewhere between 12,000 and 14,000 but the distribution in the various regions has changed. There has for example been a steady increase since 1948 in Latium. Poland with 95 cases per 100,000 inhabitants was still a highly endemic focus in 1950 and the number of cases increased between 1947 and 1950. In Hungary the figures were still rising in 1949. In Yugoslavia the drop in incidence has been less marked than in most other European countries (4,505 cases in 1951 as against 7,677 in 1946). The figures for Greece, Spain and Turkey remain high. In the Netherlands the number of annual notifications since 1940

FIG 2 DIPHTHERIA CASES REPORTED IN VARIOUS EUROPEAN COUNTRIES
1941-51

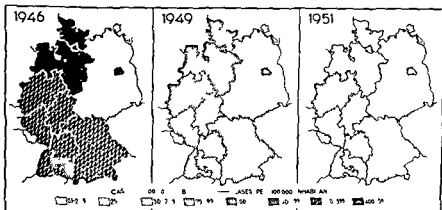


Germany 1937 territory up to 1943 Federal Republic of Germany since 1946
Confirmed cases only (England and Wales since 1944)
Clinical cases only since 1944

in registration since the end of the war. In Cyprus, Iran, Iraq, Israel and the Republic of Lebanon the number of notifications has in most cases increased.

In Europe where diphtheria incidence is by far the highest, notifications in general have decreased, as has been stated (see fig. 2). Nevertheless, incidence remains very high in certain countries—particularly in Austria, Germany, Italy and Poland. In 1949 almost as many cases were registered in these four countries together as in all the other countries of the world for which data were available. In the territory of the Federal Republic of Germany, however, there has been a 75% decrease in diphtheria incidence as compared with the pre-war median (see fig. 3). In certain regions the

FIG. 3. DISTRIBUTION OF DIPHTHERIA IN GERMANY



Western sectors only

1951 figures are only 6.1% to 9.2% of those for 1946. Incidence remains high in Austria, and although the 1951 figure of 7.414 cases or 107 per 100 000 inhabitants is the lowest since 1940, this still represents a rate approximately twice that of the Federal Republic of Germany. In Italy, the number of notifications has not varied very much over the country as a whole. The annual figures remain somewhere between 12 000 and 14 000, but the distribution in the various regions has changed. There has, for example, been a steady increase since 1948 in Latium. Poland, with 95 cases per 100 000 inhabitants, was still a highly endemic focus in 1950, and the number of cases increased between 1947 and 1950. In Hungary, the figures were still rising in 1949. In Yugoslavia, the drop in incidence has been less marked than in most other European countries (4 505 cases in 1951 as against 7 677 in 1946). The figures for Greece, Spain and Turkey remain high. In the Netherlands, the number of annual notifications since 1940

has regularly exceeded the pre war median (2,757 cases in 1951 as against 1 273) In Great Britain and Northern Ireland, on the contrary, the decrease in incidence, apparent since 1941, has continued The number of cases recorded in 1951 represents hardly 4% of the 1940 notifications, in fact diphtheria may soon cease to be a public health problem In the Republic of Ireland the situation is also favourable 79 cases in 1951, whereas the pre war median was 2,584

In Oceania, Australia has experienced a fall in diphtheria incidence since 1944 and the figures have been consistently lower than the pre war median In New Zealand, a maximum was reached in 1946 which was higher than the pre war median, but incidence is distinctly lower than in Australia For the period 1941-51 notifications in New Zealand amounted to one seventh of those for Australia although the population is only one fourth of that in Australia

In conclusion diphtheria incidence in the world as a whole appears to be in regression The increase which has been noted in certain non European countries and territories is insignificant by comparison with the considerable improvement since the war in the majority of areas of high diphtheric endemicity

WORLD INCIDENCE OF POLIOMYELITIS IN 1951

The March number of the *Epidemiological and Vital Statistics Report*¹ contains an important article by Dr M J Freyche, Chief of the WHO Epidemiological Information Section, on the incidence of poliomyelitis in 1951 Included in this article are two short studies 'Omnipresence of the poliomyelitis viruses' and 'Variation in incidence according to season and latitude'

Poliomyelitis incidence decreased in a number of countries in 1951, particularly in those—such as the USA—in which it had been very high in recent years On the other hand there was a rise in incidence of the disease in some countries where it had previously been low

In Africa there was a considerable increase in the number of notifications in the Belgian Congo and the neighbouring territories of French Equatorial Africa and Angola Seven hundred and forty two cases were recorded during the first ten months of the year in Angola whereas from 1927 to 1950 the annual notifications never exceeded 34

In America there was a 14% decrease in poliomyelitis incidence in the USA as compared with the rate for 1950 Incidence rose in Canada

and Mexico however the 1951 figures in the latter country being higher than at any time since 1937. Data are lacking for many South American and Central American countries.

The number of notifications in Asia showed no appreciable change except for Japan (1 000 more cases than during the previous year) and Israel where the disease was less prevalent than in the year before but of a more serious nature. There are no data for several Asiatic countries.

The situation in western Europe was on the whole definitely better than in 1950. In the United Kingdom of Great Britain and Northern Ireland notifications in 1951 numbered only one third of those for 1950. In Italy however incidence was higher—2 870 cases—a higher figure than for any of the fifteen preceding years with the exception of 1939. Incidence was also higher in the Netherlands—568 cases in 1951 as compared with a total of 308 for the three preceding years. In Switzerland too there was an increase over the 1950 figures particularly in German Switzerland.

In Oceania there was a marked rise in incidence of poliomyelitis during 1951. The number of cases in Australia exceeded that for the years 1938 and 1950 in which the incidence had been the highest since 1924. The most striking increase was noted in Queensland—1 106 cases as against 119 in 1950.

* * *

From the studies which conclude Dr Freyche's article it would appear that poliomyelitis viruses are found to a varying extent among all peoples and in all climates. In countries where poliomyelitis is not a notifiable disease some idea of its incidence may be obtained from mortality statistics. For example it has been noted that in Japan which was formerly considered free from large scale epidemics the death rate from poliomyelitis between 1923 and 1943 was 7.6 per 100 000 inhabitants—a figure approaching that for the USA (8.9). In another country which was thought to be exempt from poliomyelitis—Brazil—the orthopaedic hospitals revealed the presence of the disease which is responsible for a large proportion of the cases of paralysis among children.

It would seem that poliomyelitis epidemics are frequent in hot climates and that they are as severe there as in cold or temperate regions. However in hot countries the phenomenon of seasonal variation observed in temperate climates is absent and outbreaks may occur at any time of the year.

PREVALENCE OF LEPROSY IN THE WORLD

The Fifth World Health Assembly raised the problem of leprosy and decided that WHO should encourage active programmes in leprosy control¹ Such programmes might now be effective since treatment with sulfones results in clinical improvement of the patient and reduction in the contagiousness of the disease In considering the control of leprosy, however, one of the first questions which naturally arises is how many people suffering from leprosy are there in the world? A study in the June number of the *Epidemiological and Vital Statistics Report* by Dr M Pizzi, Chief of the WHO Section of Morbidity Statistics, gives most of the basic information at present available on the prevalence of leprosy

Even though leprosy has almost everywhere lost the "epidemic and invading characteristics" which it had in the Middle Ages, it is still prevalent in many parts of the world estimates of the total number of cases vary from two million to seven million This wide range is partially explained by the fact that the first symptoms of the disease are difficult to detect It is impossible to ascertain the exact number of cases of leprosy in the world today For many countries the only accurate figure is that of the number of patients in leprosaria But in Indonesia for example, the total number of people with leprosy is estimated at 75,000 whereas there are only 3 735 in leprosaria (1950) and in French Equatorial Africa, the estimated number of cases is about 50 000 but in 1951 only 1,000 were under treatment It can readily be seen that it is difficult to get an idea of the actual number of cases of leprosy in a country from the number of patients hospitalized or under treatment In other countries, the health services record the cases of leprosy of which they receive notification whether or not they are hospitalized but they know that their figures represent only a small proportion of the total number In Paraguay for instance 979 cases were registered in 1949, but the total number in the country is estimated to be somewhere between 5,000 and 10 000 In some of the African territories under British administration random surveys have been made morbidity rates have been calculated on the basis of the number of cases found and an estimate of the total for the whole country has been drawn from these rates

Not only the total number of cases of leprosy but also the proportion of them which are infectious and which contribute to the spread of the disease is of interest to public health services It is known that neural, or tuberculoid leprosy in which the skin lesions are frequently bacterio

¹ Cf. *World Health Org* 195 6 175 The first session of the recently created Expert Committee on Leprosy met 27 September
Epidemiol. Vital Statist. Rep. 5 61

logically negative is a benign form while the lepromatous type in which the skin lesions are usually bacteriologically positive is more infectious. Official reports and technical papers on the incidence of leprosy often fail to indicate the type concerned—lepromatous or neural. However, some countries have given this information. In Africa (except for the Union of South Africa) the proportion of lepromatous cases is about 20% while in America the proportion ranges from 40% in Paraguay to 90% in Colombia and is about 50% in most places. If a valid comparison between the data for these two continents could be made, this difference might suggest that the infection is older in Africa than in America, since the lower proportion of lepromatous cases might indicate a higher degree of immunity.

Africa

Leprosy is widespread in the central and western regions of Africa. North Africa is relatively free from the disease. The total number of cases is somewhere between two millions and two millions and a half. Among the territories which, according to rough estimates, seem to have the most cases of leprosy are: Nigeria (about 400 000 in 1948), French West Africa (200 000), Belgian Congo (100 000), French Equatorial Africa (50 000), Madagascar (40 000), Ethiopia (15 000–20 000), and the Portuguese colonies in west Africa—Angola, Cape Verde Islands, Portuguese Guinea, Sao Tome and Principe (total 20 000). Leprosy is not uncommon in certain other territories under British administration; random surveys have made possible the following estimates of the number of cases: 100 000 in Tanganyika (prevalence rate of 18.1 per 1 000), 80 000 in Uganda (17.9 per 1 000), 20 000 in Northern Rhodesia (12.6 per 1 000), and 35 000 in Kenya (10.3 per 1 000).

America

Leprosy does not constitute a public health problem in North America. In 1950, there were 390 cases isolated and treated in the USA; in 1949, there were 8 cases hospitalized in Canada. In certain countries of Central and South America, however, the disease is rather prevalent but less so than in Africa or Asia. Of the countries in America, Brazil has the highest number of cases of leprosy: 37 541 registered in 1948. Argentina is estimated to have about 12 000 (1945), Mexico more than 9 000 (1950), and Paraguay between 5 000 and 10 000. In 1946, there were 8 412 known cases in Colombia, with the lepromatous type of infection predominant. In Peru, there are about 3 500 leprosy patients, of whom 3 000 are in the north-eastern part of the country, a zone of endemicity. Cuba, in 1946, had 2 802 registered cases. Venezuela, in 1947, 2 795, and French Guiana, in 1946, 1 131, a prevalence rate of about 4%. In French Guiana, it has

been found that children under 15 years of age represent about half of the new cases an effort is being made to detect early cases of leprosy especially among schoolchildren In British Guiana there were 1172 known cases in 1948, or about 2.5 per 1 000 inhabitants In Chile leprosy is practically unknown

Asia

Asia is the principal focus of leprosy, it is widespread in almost every country on the continent In India alone there are more than 1 million cases In western Asia and Siberia, however the disease is more rare

In India the zone of high endemicity extends along the whole of the east coast and in the south it encompasses West Bengal South Bihar, Orissa, Madras and Travancore Cochin In the highly endemic areas leprosy may be prevalent in from 2% to 5% of the population, but, in certain regions the rate rises to 10% and in certain villages even to as high as 15% to 20% On the other hand in north western India the prevalence rate is scarcely 0.01% Infectious patients throughout India may number about 250 000

In China there are an estimated million cases but data are lacking for even a rough approximation The number of patients under treatment in certain leprosaria and dispensaries in 1948-9 was well under 10 000

In Indonesia there were an estimated 75 000 cases in 1950 In Thailand estimates vary between 20 000 and over 60,000 The estimate for Japan is 20 000, for South Korea, also 20 000 and for the Philippines 18 500

Europe

There are still some endemic foci in Europe mainly along the Mediterranean particularly in Spain Leprosy is also somewhat prevalent in Portugal

In 1949 Spain still had approximately 2 000 beds available for leprosy patients The estimated total number of cases is between 4 000 and 8,000 The principal foci are in the south a census taken in 1949 revealed 1,708 cases of which 576 were in Andalusia and Badajoz Galicia and the eastern Mediterranean coast are also endemic zones

Portugal has a modern leprosarium of 1 000 beds and a census carried out between 1934 and 1937 disclosed 1,416 cases

In Greece the total number of patients is estimated at 2 000 the prevalence seems to be particularly high in Crete In France there are 200-300 leprosy patients under treatment but almost all of them contracted the disease in the colonies About one hundred cases are known in the United Kingdom of Great Britain and Northern Ireland At the end of 1948 Norway had 16 cases and Sweden 6 The Federal Republic of Germany had 4 known cases in 1949

Oceania

The number of cases of leprosy in Australia is few 132 isolated patients in Queensland at the end of the fiscal year 1948-9 New Zealand seems to be free from the disease On the other hand leprosy is endemic in many of the islands— Fiji Solomons and the Hawaiian archipelago The leprosy hospital in Makogai in the Fiji Islands which also admits lepers from neighbouring islands had 669 cases in October 1948 The British Solomon Islands had 950 patients in 1947 in Hawaii there were 475 registered cases at the end of 1950 and in French Oceania there were 387 known cases in 1945 In the Pacific Islands under USA administration the total number of patients among the 50 000 natives is estimated to be between 500 and 1 000

In brief the health services of 85 countries or territories know of a little more than half a million cases of leprosy a figure representing probably no more than one quarter of the total number according to most conservative estimates and about 7 % of the total according to the highest estimate It can be seen that this approximation is not sufficient to permit an exact evaluation of the prevalence of leprosy in the world and the author emphasizes the need for more precise and complete statistical information on this subject

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time, but it must be emphasized that the opinions expressed are those of the Fellows.

Child Psychiatry in the USA

A study-tour undertaken through a WHO/UNICEF fellowship enabled Dr Henry Aubin, Chief Medical Officer of the Child Medico-Psychological Centre at Clermont Ferrand, France, to visit a great number of psychiatric establishments in the USA and to study their methods of work. The observations of Dr Aubin on some of the achievements which particularly impressed him during his tour are briefly summarized hereunder.

Child guidance clinics

In the USA there are two types of psychiatric institute for children—child guidance clinics—which are essentially for the prevention and treatment of mental disorders and of numerous psychosomatic conditions, and a certain number of treatment and re-education establishments.

"Child guidance clinic" means briefly a centre for the observation and psychotherapy of outpatients—a kind of enlarged dispensary particularly concerned with emotional and social problems.

The principal element in such centres—which are in most cases set up in ordinary houses—consists of a playroom furnished with a great variety of material and in general with some arrangement whereby the "play therapist" can observe without being seen. Treatment usually includes sessions of individual therapy using every possible medium of self-expression particularly drawing, including finger painting.

The number of staff in these child guidance clinics is ten times, sometimes even more than usually found in French establishments. It includes a group of psychiatrists at the head of whom is a recognized specialist with training in psychoanalysis and related subjects, psychologists, specialist schoolteachers and in particular that category of worker which originated in the Anglo-Saxon countries, the social worker. The latter function both as social workers proper and as advisers qualified to modify the child's environment, to discover and tactfully point out educational errors and to give moral and material assistance to the families. For this purpose they often have considerable funds at their disposal. The administrative staff also, numerous, is equipped with all the most modern devices (means for recording of interviews, general use of dictaphones, etc.) and makes every effort to present clearly both the details and the general picture of observation and treatment.

Children's villages

During his tour Dr Aubin visited a number of re-education and treatment centres such as the Child Study Center (Baltimore) which deals particularly with scholastic adjustment cases the Emma Pendleton Bradley Home (Providence) for children suffering from behaviour disorders neuroses psychoses and epilepsy and the Governor Bacon Health Center (Delaware) which cares among others for crippled children children suffering from emotional disorders backward epileptics etc.

One of the most remarkable of these institutions is the Dobbs Ferry Children's Village for the re-education of pre delinquents and of young delinquents considered as reclaimable. Since its foundation a century ago the village has re-educated 50 000 children with remarkable results.

The basic principle is to distribute the children in such a manner as to avoid humiliating comparisons among them. Thus each house has children of the same age each class children of the same level each workshop children of the same manual ability. Team spirit is substituted for the competitive spirit and the common task for individual work. Children are encouraged to frequent libraries and an effort is made in specialized clubs selected according to individual inclination to develop a taste for the arts (music dramatic art painting pottery etc.) the sciences collections (stamps for example) and so on. The children produce a journal and elect a government with a mayor and delegates who contribute to the administration justice hygiene and amusements of the village. One very interesting feature is that the village has a monetary system which plays an important role in the life of the children. Through it they learn how to plan a well balanced personal budget it also acts as an effective incentive.

Parents are encouraged to visit their children and to participate in the task of re-education many of them draw considerable moral benefit from these contacts to the advantage of their other children.

Education of the public

After indicating the direction of the scientific research which is being undertaken in many centres Dr Aubin stresses the immense effort made in the USA during the past ten years to inculcate in parents the basic principles of mental health in children. The appeal is to fathers as well as to mothers. It opposes the inopportune exercise of authority and the implanting of a sense of inferiority in the child defines the laws of growth and their educative corollaries and explains the origins of neurotic behaviour and psychosomatic disorders.

The press radio and books play a leading part in this effort to obtain the co-operation of the public which is made all the easier by the policy of the government on problems of childhood. A children's charter in which the rights of American children are defined forms the basis of the activities of the Children's Bureau which controls and co-ordinates all work affecting the various aspects of the life of the child. Finally mention must be made of the important contribution of the social workers in their influence on families without which no progress in child psychiatry could be made.

Notes and News

Regional Seminar on Vital and Health Statistics for the Western Pacific

A regional seminar and teaching course in vital and health statistics for the Western Pacific was held in Tokyo from 4 August to 20 September 1952. About thirty participants from various countries attended the meetings: 14 from Japan, 10 WHO Fellows from Australia, China, the Philippines, and the Republic of Korea, and 3 United Nations Fellows from Cambodia, China, and Hongkong.

The object of this seminar was not only to train personnel in techniques of vital and health statistics, but also to familiarize the participants with the aims and working programmes of international organizations and to disseminate information about international standards and methods for improving national statistics and international comparability of such statistics. It was also hoped to develop close working relationships among national agencies concerned with recording vital statistics and public-health and statistical services, and to exchange ideas on the adaptation and modification of national systems.

Following the opening ceremony at which the Minister of Health and Welfare of Japan gave an address, there were a number of sessions on the following subjects: statistical methodology (14), vital statistics (17), health statistics (17), and the international classification of diseases, injuries, and causes of death (6). Two lectures on the structure and functions of the United Nations and WHO were also given. Arrangements were made for visits to statistical offices in Tokyo and for exhibitions and demonstrations of punch-card systems and mechanical sorting devices, in order to familiarize the participants with modern equipment for statistical work.

All the participants displayed a keen interest in the courses offered them. This seminar—the first in the Region—marks an important step in international health work, since detailed accurate and comparable vital and health statistics are indispensable in evaluating the extent and urgency of health problems and the results of international action with regard to them.

Maternal and Child Health Demonstration Project in Formosa

With the assistance of UNICEF and WHO, the Government of Formosa has undertaken a maternal and child health demonstration project. A demonstration area in a central region of the island has been selected, and WHO team members have begun their assignments. The project is expected to last two years, after which further operations will be carried on by the national health authorities.

Leprosy Specialist on Assignment in Burma

As a result of a survey carried out in Burma in 1951 by Dr. Dhamendra, WHO leprosy consultant, the Organization, at the request of the Government, has sent to Rangoon Dr. P. H. J. Lampe, a specialist who has had almost thirty years' experience in leprosy control and other public health problems and who was instrumental in the establishment of the Central Institute of Leprosy Research in Djakarta, Indonesia. Dr. Lampe will advise the Government of Burma on preparations for a campaign against leprosy and integration of this campaign into the general programme of public health. He will participate in the training of personnel in the latest advances in leprosy and will aid in developing training facilities at the Central Leprosy Clinic in Rangoon. WHO will

provide drugs and equipment for this project to a value of \$3 000 and will grant two fellowships to allow Burmese leprosy workers to study abroad

Aid to Indian Medical College

The Government of India asked WHO to help to develop the newly established Medical College at Trivandrum (State of Travancore Cochin) — one of the most modern and well equipped institutions of its kind in India — by providing a Principal for the College for the first two years. After consultation between the Government of India and WHO Dr Axel Hojer was appointed. Dr Hojer who recently retired from the post of Director General of Public Health of Sweden is a former associate professor of hygiene and public health and a member of the committee on reform of medical education in Sweden. He was active also in the field of international health and served for three years as a member of the WHO Executive Board. Social medicine, public health and nutrition were among his main activities. In addition to being Principal of the Medical College he will lecture on social and preventive medicine and on public health.

DDT Factory in India

According to the terms of an agreement signed in July by the Government of India, the United Nations International Children's Emergency Fund (UNICEF) and WHO, a DDT factory is to be constructed in Delhi. By March 1954 this factory will be able to produce annually 700 tons of insecticides for use in malaria-control activities in India. In addition, the plant will serve as a training centre in modern methods of insecticide production for technicians from other countries.

The Indian Government will provide the land, buildings, transport within the country, water and electricity; it will also pay for the installation of equipment, services of local personnel and general expenses. UNICEF will procure the essential equipment for the production of DDT and for a control laboratory. WHO will furnish the services of four international experts who will advise on the construction and initial operation of the plant. WHO will also arrange for the training of Indian personnel in DDT production methods.

Occupational Health Survey in Egypt

An occupational health survey will be conducted in Egypt in collaboration with the Ministry of Public Health and the Department of Labour of the Ministry of Social Affairs, by a consultant appointed by WHO and serving also in the capacity of consultant for the International Labour Organisation (ILO). This consultant is Dr A. Bruusgaard, Chief Medical Inspector of Factories for Norway, who is on leave of absence for three months. Dr Bruusgaard has travelled in America and England (with a grant from the Rockefeller Foundation) to study occupational health problems and has participated in several ILO conferences, including an expert conference on pneumoconiosis.

After completing his survey in Egypt, Dr Bruusgaard will prepare a report with recommendations to the Egyptian Government and to WHO, which will be of value in developing a long term programme of occupational health service based on the needs of the country.

New Tuberculosis Centre in Egypt

Dr J. B. McDougall, who was chief of the WHO Tuberculosis Section in Geneva for five and a half years, has returned to the "field" in Egypt, where he worked for some months in 1944-5. He is assisting the Egyptian Government in the establishment of a tuberculosis demonstration, teaching and control centre in Cairo and is working with

SCHEDULE OF MEETINGS

- | | |
|---------------------------|---|
| 27 October
1 November | Expert Committee on the International Pharmacopoeia eleventh session
Geneva |
| 3-4 November | Expert Committee on the International Pharmacopoeia Subcommittee
on Non Proprietary Names fifth session Geneva |
| 10-18 November | Expert Committee on Leprosy first session Rio de Janeiro |
| 24-29 November | Expert Committee on Public Health Administration second session
Geneva |
| 24-29 November | WHO/FAO Seminar on Zoonoses Vienna |
| 28 November
4 December | FAO/WHO Joint Committee on Nutrition (in co-operation with CCTA
Nutrition Conference) Fajara Gambia |
| 5-10 December | Expert Committee on Plague second session Bombay |
| 15-20 December | Expert Committee on Professional and Technical Education of Medical
and Auxiliary Personnel second session Nancy |

INTER-REGIONAL RABIES CONFERENCE

Rabies is a disease in which specialists are few and the demands for international assistance comparatively numerous. To try to meet the demands for aid and to spread the knowledge of recent advances made largely by the few specialists WHO sponsored an inter regional conference on rabies held at the Pasteur Institute of Southern India Coonoor during the last two weeks of July. This conference was unique in that it gave intensive and individual training in complicated laboratory procedures to a large international group. A consultant staff of eight members—from France India Israel and the USA—gave lectures led discussions and supervised the laboratory work of 47 participants—including 38 WHO fellowship holders—from 21 countries primarily in the Eastern Mediterranean South East Asia and Western Pacific Regions. The Food and Agriculture Organization (FAO) was also represented.

The type of concentrated training which the conference gave may serve as a model for subsequent technical gatherings of this kind. Morning sessions were devoted to lectures and general discussions and afternoon sessions to laboratory exercises. The participants worked intensively for about six hours per day and gained experience within twelve days which would have taken months of travel and study to acquire.

FIG 1 INTER REGIONAL RABIES CONFERENCE 1



During the conference a child who had been bitten by a stray dog was brought to the Institute where in addition to the usual treatment a vaccination she was given a 1 cc injection of a new antirabies serum which had been brought to the meeting by one of the discussion leaders.

FIG 2 INTER REGIONAL RABIES CONFERENCE II



The dog which had bitten the child was killed and its body brought to the Institute. Here Dr H Johnson with the assistance of another of the discussion leaders is removing the brain so that tests for rabies infection may be made

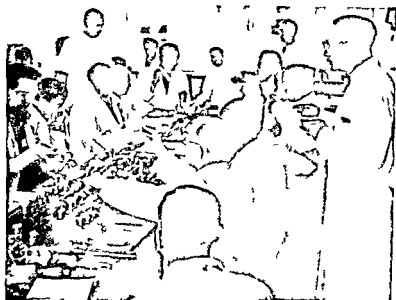
Among the aspects of rabies studied were epidemiology, clinical manifestations, serum neutralization test and mouse inoculation techniques, pathology, post exposure treatment in man and animals, production of human and veterinary vaccines and sera, potency testing of vaccines, organization of field control programmes, laboratory diagnosis of rabies, care and breeding of laboratory animals, and research problems. Visual teaching aids such as films, film strips and slides were utilized. Laboratory demonstrations by the discussion leaders were followed by actual performance of the procedures by the participants.

One of the objects of the conference was to teach standardized procedures in rabies tests so

that the results obtained in laboratories in various parts of the world may be compared. Lack of comparability has up to now made impossible any really scientific analysis of much of the work done in rabies. It is felt that the new and standardized techniques which were taught at the conference will be introduced into the majority of countries represented by the participants and will thereby greatly aid future comparisons of results.

Plans were made for collaborative research to be undertaken in the laboratories in which the conference participants work. Investigations will be concentrated on the effect—in human beings and in animals—of hyperimmune serum combined with various schedules of vaccination procedures on the efficacy of different forms of local treatment of wounds in preventing rabies and on modified strains of rabies virus used for vaccines in dogs.

FIG 3 INTER REGIONAL RABIES CONFERENCE III



Participants in the conference actually performing laboratory tests at the work benches under the close supervision of the discussion leaders

FIG 4 INTER REGIONAL RABIES CONFERENCE IV



Dr H Koprowski (lower right) explaining a fine point of laboratory technique to conference participants

Participants in the conference requested that follow up assistance be given to them by WHO, particularly with regard to technical difficulties which they may encounter when they return to their own laboratories. They were assured that the Organization will continue to give them technical aid and that every effort will be made to keep them abreast of new developments in rabies control and research.

The discussion leaders at the conference were Dr M L Ahuja, Director, Central Research Institute, Kasauli, India, Dr H N Johnson, Virus Research Centre, Indian Council of Medical Research, Rockefeller Foundation, Poona, India, Dr M M Kaplan, Chief Veterinary Officer, World Health Organization, Geneva, Switzerland, Dr A Komarov, Director, State Veterinary Laboratory, Virus Section, Haifa, Israel, Dr H Koprowski, Assistant Director, Viral and Rickettsial Research Division, Lederle Laboratories, Pearl River, New York, USA, Dr P Lépine, Director, Virus Section, Institut Pasteur, Paris, France, Dr E S Tierkel, Veterinary Public Health Division, US Public Health Services, Atlanta, GA, USA, and Dr N Veeraraghavan, Director, Pasteur Institute, Coonoor, India. Countries represented by the participants included Afghanistan, Australia, Austria, Burma, Ceylon, China, Cyprus, Egypt, India, Indonesia, Iran, Iraq, Israel, Japan, Lebanon, Malaya, the Philippines, Spain, Syria, Thailand, and Turkey.

INTERNATIONAL NON-PROPRIETARY NAMES FOR DRUGS¹

Chemists throughout the world have for some time had a common nomenclature. Even in organic chemistry, despite the considerable difficulties involved, successful efforts are being made to establish a system of nomenclature for the many compounds which are daily being developed. The adoption of an international nomenclature for drugs, however, raises more complicated problems: certain drugs which have been in use for a long time are known in various countries and diverse languages by different names chosen long before the introduction of a rational system of nomenclature.

At first sight it might seem that for the numerous drugs which are chemical compounds the chemical names could be used, but the latter are often so complicated that manufacturers and sales agents spontaneously adopt simpler and shorter names. Obviously, riboflavin sounds

¹ Summary of a lecture by P. Blanc, Secretary of the Expert Committee on the International Pharmacopoeia, delivered before the 14th General Assembly of the International Pharmaceutical Federation and published in the *Bull. Fed. Int. Pharm.* 1950/51: 24-138.

better and is more easily remembered than 6 7 dimethyl 9 (D 1 ribityl) iso alloxazine But unfortunately the same substance is known elsewhere by the name of lactosflavine or vitamin B₂ Another example may be cited namely that of the methadone hydrochloride of the *Pharmacopoeia Internationalis* (6 dimethylamino-4 4 diphenyl 3 heptanone) which is known in different countries under the following names amidone miadone diadone diamnon mephenon symoron etc

Sick persons who are travelling should be able to find the drugs they need in every country and pharmacists everywhere should interpret in the same way a prescription drawn up in another country In short every important drug should have an international non proprietary name

The first commission for international pharmaceutical nomenclature was established in 1915 under the auspices of the International Pharmaceutical Federation A second commission was appointed in 1922 and as early as 1924 a first list of names was submitted to national pharmacopoeia commissions Some of them adopted this list arranging to have placed after each name initials identifying it as belonging to the international nomenclature

The Brussels Agreement of 1929 suggested to the pharmacopoeia authorities of the signatory countries international names for a series of so called potent drugs for which specific standards were indicated Further more one of the articles in the Agreement assigned to the future permanent international pharmacopoeia secretariat (which was to be set up under the auspices of the League of Nations) the duty of formulating proposals which might lead to a uniform nomenclature in pharmacopoeias The said secretariat has since come under the aegis of WHO

The Expert Committee on the Unification of Pharmacopoeias of the WHO Interim Commission was established in 1947 At its second meeting in June 1948 this committee expressed the wish to seek the co operation of the International Union for the Protection of Industrial Property with the aim of introducing non proprietary names for drugs

In October 1948 a member of the expert committee submitted a note requesting WHO to standardize non proprietary names and to create introduce and have adopted international non proprietary names for new pharmaceutical chemical compounds whether included or not in the International Pharmacopoeia He suggested that these names be in Latin and that they as well as their translations into the various languages enjoy international protection and not become the property of business concerns or of individuals

In January 1949 the Expert Committee on Habit Forming Drugs recommended in turn that a mechanism should be established whereby every habit forming drug subject to international control can be given a single name to be used for all international purposes ²

Participants in the conference requested that follow up assistance be given to them by WHO, particularly with regard to technical difficulties which they may encounter when they return to their own laboratories. They were assured that the Organization will continue to give them technical aid and that every effort will be made to keep them abreast of new developments in rabies control and research.

The discussion leaders at the conference were Dr M L Ahuja, Director, Central Research Institute, Kasauli, India; Dr H N Johnson, Virus Research Centre, Indian Council of Medical Research, Rockefeller Foundation, Poona, India; Dr M M Kaplan, Chief Veterinary Officer, World Health Organization, Geneva, Switzerland; Dr A Komarov, Director, State Veterinary Laboratory, Virus Section, Hufa, Israel; Dr H Koprowski, Assistant Director, Viral and Rickettsial Research Division, Lederle Laboratories, Pearl River, New York, USA; Dr P Lepine, Director, Virus Section, Institut Pasteur, Paris, France; Dr E S Tierkel, Veterinary Public Health Division, US Public Health Services, Atlanta, GA, USA; and Dr N Veeraraghavan, Director, Pasteur Institute, Coonoor, India. Countries represented by the participants included Afghanistan, Australia, Austria, Burma, Ceylon, China, Cyprus, Egypt, India, Indonesia, Iran, Iraq, Israel, Japan, Lebanon, Malaysia, the Philippines, Spain, Syria, Thailand, and Turkey.

INTERNATIONAL NON-PROPRIETARY NAMES FOR DRUGS¹

Chemists throughout the world have for some time had a common nomenclature. Even in organic chemistry, despite the considerable difficulties involved, successful efforts are being made to establish a system of nomenclature for the many compounds which are daily being developed. The adoption of an international nomenclature for drugs, however, raises more complicated problems: certain drugs which have been in use for a long time are known in various countries and diverse languages by different names chosen long before the introduction of a rational system of nomenclature.

At first sight it might seem that for the numerous drugs which are chemical compounds the chemical names could be used, but the latter are often so complicated that manufacturers and sales agents spontaneously adopt simpler and shorter names. Obviously, riboflavine sounds

¹ Summary of a lecture by P. Blanc, Secretary of the Expert Committee on the International Pharmacopoeia, delivered before the 14th General Assembly of the International Pharmaceutical Federation and published in the *Bull. Fed. Int. Pharm.* 1960, 51, 4-138.

with numerous requests including that of the World Medical Association. The Expert Committee on the International Pharmacopoeia has also declared that any name suggested by the person making a discovery if it is not contradictory to these principles should be given favourable consideration.

Principle 8 (the endings to be used) must be applied on a fairly wide basis so as to cover the majority of cases. It is possible that it may be subsequently amended and extended. International non proprietary names will always be established in Latin with French and English translations.

It is recommended furthermore that all products which have received an international non proprietary name and which are sold under a trade mark should also bear the international non proprietary name on the label.

The above principles were communicated to WHO Member States in April 1950. Thirty two Member States have declared themselves to be in general agreement with the principles approved by the World Health Assembly. Exchanges of views have taken place with several national pharmacopoeia commissions and with various interested national or international organizations.

A Subcommittee on Non Proprietary Names has been attached to the Expert Committee on the International Pharmacopoeia. Since its creation this subcommittee has selected or approved several hundred international non proprietary names⁴. The names are chosen as follows. National pharmacopoeia authorities and other competent bodies are asked to invite manufacturers and research laboratories to inform them of new pharmaceutical products which might later be incorporated into the International Pharmacopoeia and for which it would be necessary to adopt international non proprietary names. They are also requested to inform WHO of these products. When necessary to save time manufacturers research laboratories and universities may report these products directly to WHO. Between the sessions of the Expert Committee on the International Pharmacopoeia suggestions presented by a member or by one of the above mentioned authorities are communicated in writing to the chairman of the subcommittee who submits a proposed name to the other members of the subcommittee. If they do not accept this proposal they inform the chairman to this effect. The chairman is empowered to select the final name after one or two exchanges of views. Whenever possible the subcommittee collaborates closely with the pharmacopoeia authorities.

All this represents a very difficult task. It is necessary to search out the names which are registered or in use in the various countries so that the proposed names will not duplicate those of already existing trade marks. Furthermore measures must be taken with a view to preventing the use

⁴ List of non proprietary names for drugs to be included in the 11th International Pharmacopoeia. The names have been published in the World Health Organization Reports, 1951, 35, 8.

The Expert Committee on the Unification of Pharmacopoeias consequently set to work to fulfil the wishes expressed in various quarters and, in 1950, a series of guiding principles for the selection of international non proprietary names was submitted to the Third World Health Assembly. These principles are as follows:

- (1) Names should preferably be free from any anatomical, physiological, pathological or therapeutic suggestion.
- (2) An attempt should first be made to form a name by the combination of syllables from the scientific chemical name in such a way as to indicate the significant groupings of the compound.
- (3) Names should in general not exceed four syllables.
- (4) Names should be distinctive in sound and spelling and should not be liable to confusion with names already in use.
- (5) Names which are difficult to pronounce or to remember should be avoided.
- (6) The addition of a terminal capital letter or number should be avoided.
- (7) Names already used in the national pharmacopoeias or officially adopted in any country or which are included in *New and Nonofficial Remedies* should receive preferential consideration.
- (8) The following terminations should be used:

Latin	English	
-inum	-ine	for alkaloids and organic bases
-inum	-in	for glycerides and neutral principles
-osidum	-oside	for glycosides
-olum	-ol	for alcohols and phenols (OH group)
-alum	-al	for aldehydes
-onium	-one	for ketones and other substances containing the CO group
-enum	-ene	for unsaturated hydrocarbons
-anum	-ane	for saturated hydrocarbons *

The first principle arises both from the desire not to give the patient the idea of some definite disease and from the fact that the therapeutic indications for certain new products have been found in practice to be different from those originally attributed to them.

Principles 2 and 3 are generally accepted and applied. As regards principles 4 and 5 they refer to those cases, no doubt frequent, in which a given non proprietary name must be amended in a country so as to avoid confusion with common names or with registered trade marks.

Principle 6 is generally accepted by national pharmacopoeia commissions, and it is considered preferable, for example, to adopt ascorbic acid rather than vitamin C.

Principle 7 encourages the adoption by preference of names already employed in the country where the new product has been discovered and put on the market for the first time. This important principle complies

shift in emphasis from curative to preventive measures from efforts to meet the demands of sick persons to attempts to reduce the sources of sickness. The sickness in the region would be almost halved he maintained if only malaria could be controlled and safe drinking water provided.

Considerable progress in malaria control has already been achieved in the region as was revealed by his report of activities and accomplishments. WHO/UNICEF projects in four areas of India have been followed by government plans for a nationwide antimalaria campaign aided by the United States Point IV Programme which should protect 200 million persons over the next five years. Similar demonstrations by WHO have also stimulated government programmes in Afghanistan, Burma, Indonesia and Thailand. In Ceylon a national campaign which has been under way without outside help for five years is being continued. Plants for the manufacture of DDT for use in malaria control are being constructed in Ceylon and in India with WHO and UNICEF assistance.

The delegates learned from the report that WHO now has 110 workers engaged in more than 65 projects in South East Asia. In addition to malaria control these projects deal with tuberculosis, treponematoses and other communicable diseases, maternal and child health, nursing, nutrition and medical education and training of auxiliary personnel. Highlights of the Regional Director's report concerning these activities follow.

Tuberculosis. Five tuberculosis training and demonstration centres have been established in Burma, India (three centres) and Thailand with aid from WHO and UNICEF. In mass BCG vaccination surveys and campaigns 140 000 persons were tested and 42 000 vaccinated in Burma, 8 500 000 tested and 2 500 000 vaccinated in India and 40 000 tested and 11 000 vaccinated in Thailand.

Treponematoses. In WHO/UNICEF antiyaws projects 384 000 patients in Indonesia and 186 000 in Thailand have received treatment. Venereal disease control training centres have been opened in Afghanistan, Burma, Ceylon and India. Penicillin which is essential in the treatment of the treponemal diseases is to be manufactured at a factory now under construction in India with WHO and UNICEF assistance.

Maternal and child health. WHO and UNICEF are aiding in the improvement of maternal and child health services in Afghanistan, Burma, Ceylon, India, Indonesia and Thailand. Stress is being laid on training essential personnel particularly for work among rural populations which comprise about 80% of the total population of South East Asia. An effort is made wherever possible to integrate maternal and child health programmes into comprehensive rural health services.

Nursing. Eight projects for training nurses have been developed in connexion with existing nursing schools in the region and six short term courses were initiated during the year. More than 40 WHO nurse specialists are now serving in projects in South East Asia.

of names selected for unauthorized purposes⁵ and to prevent individuals or commercial enterprises from taking over these names for their own purposes

Two methods have been suggested to ensure protection for international non proprietary names. The International Union for the Protection of Industrial Property might study the possibility of including provisions to this effect in the International Convention for the Protection of Industrial Property. In addition the Expert Committee on the International Pharmacopoeia and WHO could suggest to the World Health Assembly the adoption of international regulations by virtue of which Member States would pledge themselves to give effective protection to the international non proprietary names

The introduction of satisfactory non proprietary names calls for the co operation of all organizations and persons concerned. The success of this undertaking depends above all on the voluntary adoption of the international names by the different countries

See Resolution WHA 3.11 of the Third World Health Assembly. *Off Rec W H A 3 11 11th O g 28 19*

REGIONAL COMMITTEE FOR SOUTH-EAST ASIA

Fifth Session

The keynote of the fifth session of the WHO Regional Committee for South East Asia was the urgent need for trained medical and auxiliary personnel to care for the population of about 500 million people. This need was emphasized in speeches by the retiring Chairman Dr S Daengsvang of Thailand and by H.E. Dr J Leimena Minister of Health of Indonesia who addressed the opening meeting of the session, held in Bandung from 4 to 9 September 1952. Dr M Soerono Secretary General of the Ministry of Health of Indonesia was elected Chairman of the session and Dr W A Karunaratne of Ceylon Vice Chairman. Present were delegates from Afghanistan, Burma, Ceylon, France, India, Indonesia, and Thailand.

Annual Report of Regional Activities

As a partial solution to the problem of inadequate numbers of trained medical personnel the Regional Director in his annual report to the committee appealed for concentration on training a vast army of auxiliary workers to aid in the development of health programmes and services in rural areas where the situation is most critical. He pleaded for a

Reports of Expert Groups

REHABILITATION OF THE PHYSICALLY HANDICAPPED CHILD

War of necessity causes rapid growth in the number of physically handicapped persons and increases the community's sense of responsibility towards them. This sense of responsibility—not merely to war victims but to all physically handicapped persons and especially to children—has been increasingly felt since the second World War while at the same time advances in medicine and psychology have enlarged the scope of possible rehabilitation measures. In 1950 an ad hoc Technical Working Party on the Rehabilitation of the Physically Handicapped was established by the United Nations to co-ordinate the activities in this field of the United Nations and of its specialized agencies. As the result of a recommendation of the working party at its second session (April 1951) a Joint Expert Committee on the Physically Handicapped Child was established by WHO with the participation of the United Nations, the International Labour Organisation (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) and met from 3 to 8 December 1951. The joint committee's report is soon to be published as No. 58 in the *World Health Organization Technical Report Series*.¹

Basis of Approach

As a basis of approach to the problem two principles are affirmed: (1) every child has the right to expect the greatest possible protection against the occurrence of preventable handicap before, during and after birth; and (2) every disabled child, regardless of the nature of his physical handicap, has the right to develop to the maximum of his abilities in spite of his disablement. It is recognized that physical handicap is not solely a physical problem: the disabled child needs not only medical care but help in adjusting himself emotionally, intellectually and socially to the consequences of his infirmity.

Prevention of Handicap

Extensive research is required before the incidence of the various conditions causing physical disability can be ascertained. Causative factors may, however, be classified in three main groups: congenital conditions—such as clubfoot, cleft palate and congenital heart disease; traumatic conditions—such as amputations and contractures following burns; and conditions related to various specific diseases such as poliomyelitis.

Nutrition A three month course, sponsored by WHO and FAO, gave training to 24 students from six countries of the region. WHO nutrition experts are aiding in projects in Burma, Ceylon and Indonesia.

Medical education and training In addition to training activities carried out in connexion with all field projects and to special courses and seminars in specific subjects, WHO has aided by providing teaching personnel by sending a visiting team of medical scientists on a teaching mission to Burma, Ceylon and India and by administering 90 fellowships, financed by UNICEF, United Nations technical assistance funds and WHO itself.

Additional projects Other activities have included assistance in the control of typhus in Afghanistan, plague and cholera in India, leprosy in Burma and Ceylon and filariasis in South Thailand. Vital and health statistics were the subject of a course given to 30 participants from seven countries. A consultant and two field workers in family planning helped the Government of India initiate pilot studies. Afghanistan was given aid in public health administration and environmental sanitation.

Committee Decisions

The health programme approved by the Regional Committee for South East Asia for 1954 calls for an international expenditure of about four million dollars, WHO assistance amounting to over two million and the remainder coming from UNICEF and other sources. This programme consists of projects along the lines of the work already in progress, as reviewed in the Regional Director's report. The delegates adopted a resolution urging modification of WHO's policy so that aid might sometimes be given in the form of provision of equipment and supplies rather than of procurement of foreign personnel.

The committee recommended that if funds become available, WHO should sponsor the following regional or inter regional gatherings:

- (1) seminar on venereal disease control—Sourabaya, Indonesia, 1954
- (2) regional conference for nursing leaders—India, 1954,
- (3) seminar on malaria control—Bangkok, Thailand, 1953 (during the sixth session of the committee)
- (4) seminar on paediatrics

A full day of the session was devoted to technical discussion, under the leadership of Dr. Karunaratne and Dr. Soerono, of two subjects: (a) the training of auxiliary health personnel and (b) the problem of health services in rural areas.

The re-appointment upon expiration of his present contract in December 1953, of Dr. C. Mann as Regional Director was unanimously recommended by the committee, this however is subject to approval by the WHO Executive Board. The committee accepted the invitation of the Government of Thailand to hold its 1953 session in Bangkok.

Reports of Expert Groups

REHABILITATION OF THE PHYSICALLY HANDICAPPED CHILD

War of necessity causes rapid growth in the number of physically handicapped persons and increases the community's sense of responsibility towards them. This sense of responsibility—not merely to war victims but to all physically handicapped persons and especially to children—has been increasingly felt since the second World War while at the same time advances in medicine and psychology have enlarged the scope of possible rehabilitation measures. In 1950 an ad hoc Technical Working Party on the Rehabilitation of the Physically Handicapped was established by the United Nations to co-ordinate the activities in this field of the United Nations and of its specialized agencies. As the result of a recommendation of the working party at its second session (April 1951) a Joint Expert Committee on the Physically Handicapped Child was established by WHO with the participation of the United Nations, the International Labour Organisation (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) and met from 3 to 8 December 1951. The joint committee's report is soon to be published as No. 58 in the *World Health Organization Technical Report Series* ¹.

Basis of Approach

As a basis of approach to the problem two principles are affirmed: (1) every child has the right to expect the greatest possible protection against the occurrence of preventable handicap before, during and after birth; and (2) every disabled child, regardless of the nature of his physical handicap, has the right to develop to the maximum of his abilities in spite of his disablement. It is recognized that physical handicap is not solely a physical problem: the disabled child needs not only medical care but help in adjusting himself emotionally, intellectually and socially to the consequences of his infirmity.

Prevention of Handicap

Extensive research is required before the incidence of the various conditions causing physical disability can be ascertained. Causative factors may, however, be classified in three main groups: congenital conditions—such as clubfoot, cleft palate and congenital heart disease; traumatic conditions—such as amputations and contractures following burns; and conditions related to various specific diseases such as poliomyelitis.

The best safeguards against the initial occurrence of physical handicap (primary prevention) are (a) social measures—precautions against industrial accidents and prevention of the employment of children at an early age or in unsuitable conditions, etc., and (b) health measures—the establishment of adequate and generally available public health services, such as maternal and child health services, improved sanitation services, measures for the control of tuberculosis and venereal disease and improved nutrition services. Continuous supervision of the health of all children and the development of more accurate methods and better facilities of early diagnosis and treatment are the best way of mitigating the effects of disability ('secondary prevention')

Physical Rehabilitation and Emotional Adjustment

The physically handicapped child will receive the best medical treatment, and will be able to achieve maximum development within the limit of his infirmities only if all services concerned—health, social and educational—work in co-operation. University medical schools, hospitals, public health units and the family doctor should collaborate in case finding, diagnosis, and general treatment. Rehabilitation centres will require the services of a medical director, assisted by a team of experts in different forms of therapy and with prostheses and mechanical aids at their disposal. As it is essential that a continuous follow up system be established for each child throughout the whole period of growth, the rehabilitation programme should form part of the general public health programme, the public health nurse and the social worker may then act as the link between the home, the hospital, the school and other community agencies concerned in the welfare of the child.

Hospital staff, parents and the general public frequently lack understanding of the attitude best adopted towards the handicapped child and by word and action inadvertently damage the child's emotional adjustment. Efforts should be made to increase particularly among hospital personnel knowledge and understanding of the emotional needs of children, and hospitals and residential institutions should guard against rigidity in treatment.

Education, Vocational Guidance and Training, and Employment

As far as possible, the handicapped child should share in the normal life of his fellows. Irrespective of whether he will be able ultimately to take his place as an employable member of the community, he has a right to receive as thorough a general education as any other child. Whenever possible, he should attend an ordinary school and even when provision of a special school or home teaching is unavoidable, the importance of normal social contacts must not be overlooked.

Vocational guidance and training should be available to any young person capable of benefiting from them. Whenever possible the young handicapped person should join in the courses provided at vocational centres and training colleges and whether he attends an ordinary or special institution in all cases the authority concerned should co-operate closely with the young person's parents and family on the one hand and with the medical and social services on the other.

Young handicapped persons should be eligible for all forms of employment which they are capable of performing satisfactorily and should not be arbitrarily excluded by reason of their infirmity or their ineligibility for insurance schemes. Experience has shown that from the point of view of production low rates of absenteeism and low accident rates the handicapped worker compares favourably with other employees a fact which should be more widely publicized. Where necessary work in sheltered workshops or in the home should be arranged.

Special Disabilities

While the joint committee considered the problem of physical handicap in general terms only as applicable to any child who over an appreciable period is prevented by a physical condition from full participation in childhood activities of a social recreational educational or vocational nature it was recognized that the general principles underlying the conclusions reached are also applicable to children suffering from such special disabilities as mental defect blindness and deafness.

Review of WHO Publications

VITAL STATISTICS FOR 1951

In an annual review of world vital statistics Dr M. Pascua, Director of the WHO Division of Health Statistics, analyses the data made available to WHO for the whole year 1951 by July 1952¹. He stresses that these data are for various reasons limited in so far as geographical coverage is concerned and not always strictly comparable owing to variations in the quality of statistics from different countries. However by means of tables and text his analysis shows general trends in natality and mortality during 1951 with specific sections being devoted to infant and neonatal mortality.

Of particular interest is the following information drawn from a table giving birth and death rates. These rates are based on 1 000 population

Country	Population (1 000)	Natality rate	Mortality rate	Natural increase
Africa				
Egypt (<i>localities with health bureau</i>)	8 349	48.1	22.1	26.0
Union of South Africa				
Europeans	2 650	25.5	9.2	16.3
Asiatics	367	36.7	10.7	26.0
Coloured population	1 107	47.8	20.6	27.2
America				
Canada	13 540 ^a	27.1	9.1	18.0
Chile	5 916	32.3	15.7	16.6
Costa Rica	825	47.6	10.7	36.9
Guatemala	2 887	52.1	19.6	32.5
Mexico	26 332	44.6	17.3	27.3
Panama (1950)	748	32.4	9.6	22.8
Puerto Rico	2 254	37.2	9.9	27.3
United States	153 500 ^a	24.5	9.7	14.8
Venezuela	5 030	44.6	11.3	33.3
Asia				
Ceylon	7 743	40.7	12.9	27.8
Cyprus	492	29.3	8.4	20.9
Israel (<i>Jewish population</i>)	1 304	33.2	6.5	26.7
Japan	84 600	25.6	10.0	15.6
Union of India (<i>registration area</i>)	270 000	26.6	15.1	11.5
Europe				
Austria	6 919	14.6	12.7	1.9
Belgium	8 670	16.1	12.6	3.5
Czechoslovakia (1950)	12 340	22.9	11.4	11.5
Denmark	4 303	17.8	8.9	8.9
Finland	4 051	22.8	10.0	12.8
France	42 200	19.5	13.3	6.2
Germany Federal Republic	48 120	15.7	10.6	5.1
Ireland (Republic of)	2 959	21.2	14.3	6.9
Italy	46 598	18.1	10.3	7.8
Luxembourg	300	14.9	11.7	3.2
Malta (<i>civilian population</i>)	315	30.1	11.1	19.0
Netherlands	10 264	22.3	7.6	14.7
Norway	3 295	18.5	8.3	10.2
Portugal	8 606	24.1	12.3	11.8
Spain ^a	28 086	20.0	11.5	8.5
Sweden	7 074	15.6	9.9	5.7
Switzerland	4 750	17.2	10.5	6.7
United Kingdom				
England and Wales	43 800	15.5	12.5	3.0
Scotland	5 114	17.7	12.9	4.8
Northern Ireland	1 373	20.7	12.8	7.9
Yugoslavia	16 340	27.0	14.2	12.8

^a Provisional figures

Excluding children born alive but dead before registration of the birth (within 24 hours)

Co ntry	P p l t (1 000)	Natal ty rate	M r tal ty r t	N t l inc as
Oceania				
Australia (<i>excluding aborigines</i>)	8 431	22.9	9.7	13.2
New Zealand (<i>excluding Maoris</i>)	1 833	24.4	9.6	14.8

In the countries of Europe included in the review there was a marked rise in natality shortly after—or already during—the second World War. Since then the birth rate has been steadily falling, and this trend continued during 1951. In many countries the decline in birth rate as compared with previous years was of the order of 1 per 1 000 population. Even so in most of the countries for which data are available the birth rate in 1951 was still equal or superior to that immediately before the war. It is interesting to note, however, that natality has decreased in those countries (Italy, Portugal and Spain) in which it was highest before the war.

In Australia, Canada, New Zealand, the USA, and among the European population of the Union of South Africa, the birth rate has, during the last few years, remained approximately unchanged at a general level of 23.27 per 1 000 population, which is higher than before the war. In most of the remaining areas for which data are available, natality is higher and does not, as a rule, show any definite tendency to change. In Japan, however, the birth rate is declining very rapidly.

Sixteen European countries and areas had a higher death rate in 1951 than in 1950, only in the Scandinavian countries was there a decrease in death rate. In the countries on other continents, the death rates remained practically unchanged, with two exceptions, India and Japan, in which there was a considerable decrease.

With regard to infant mortality, considerable improvement was noted, though not to the same extent as in 1950. Among the countries which recorded lower rates than ever before were Australia (24 infant deaths per 1 000 live births), Denmark (29), Switzerland (30), Finland (35), Scotland (37), Canada (38), Luxembourg (41), France (51), Federal Republic of Germany (53), Japan (57), Austria (62), Spain (62), New Zealand (Maori population) (68), and Portugal (89).

In most of the countries for which data on neonatal mortality are available—some referring still to 1950—slight improvement was observed.

The review also presents in tabular form information concerning natality and general infant and neonatal mortality in selected cities in different regions of the world.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Blood Transfusion in the USA

Dr M. Carrière, chief of the laboratory at the Regional Blood Transfusion Centre at Toulouse (France) was the recipient of a WHO fellowship which enabled him to study certain problems in blood transfusion in the USA for four months. There follows a summary of some of his observations.

Dr Carrière's report deals with the organization of the national blood transfusion service, the operation of a private centre (blood bank), the techniques employed in certain laboratories in the preparation and use of serum tests, and finally the preparation and preservation of various blood derivatives. Only the first two of these subjects will be discussed in this summary.

Organization of blood transfusion services in the USA

Three types of organizations are concerned with the collection and the supply of blood to doctors: the Red Cross, private centres and military centres. The Red Cross plays the most important role. With the approval of the principal medical associations, the Army, the Air Force and the Navy, the Red Cross was officially authorized in 1947 to resume in time of peace the tasks which it had carried out during the war—that is the collection, preparation and distribution of blood and its derivatives throughout the nation. This is known as the National Blood Program, which serves civilians as well as military personnel.

The National Blood Program is under the scientific direction of a committee on blood and its derivatives. It applies the methods recommended by the National Institutes of Health (Bethesda, Md.). The central office is in Washington, D.C., and the country is divided into four zones: west, central, south-east and north-east, with offices in San Francisco, St. Louis, Atlanta and Alexandria respectively. There are already more than 45 regional centres. Mobile Red Cross units, numerous and well equipped, regularly visit even very isolated localities to collect blood. A special coach on the Western Pacific Railroad serves as a blood collection centre, even the use of aeroplanes and helicopters is contemplated.

This programme is financed largely through voluntary contributions. All the Red Cross donors are unpaid. The Red Cross undertakes the expenses involved in analysing and preparing the blood and no profit is expected. Its activity is generally limited to the collection of blood and the preparation of liquid plasma. Dried plasma or fractionation products are prepared by special firms from surplus blood collected or from blood sent back to the Red Cross by hospitals when they have not used it within 21 days.

The Red Cross participates in the Civil Defense Program. In anticipation of bombing, supplies of plasma have been stored at easily accessible points on the outskirts of large

cities—within a radius of 80 to 160 kilometres. Storage of supplies of blood substitutes (subtosan gelatin dextran) has also been recommended although their clinical application is still under study.

The Red Cross has tried to organize blood typing on a community wide basis. If this were accomplished large quantities of type O blood could be made immediately available in case of emergency transfusions while a supply of homologous blood was being awaited. Mass testing has already been undertaken in large cities and their blood type made known to the persons tested. Also as part of the Civil Defense Program the Red Cross gives training in blood transfusion techniques to volunteer workers.

There are numerous private blood-collection centres either completely independent or attached to hospitals. The principle of blood banking requires that the blood supplied for transfusions be replaced by an equal quantity of blood given by relatives or friends of the patient who pays in addition \$7.50 for the expenses involved in analysis and preparation of the blood. This expense may be avoided if a second donation of blood is made. The system is actually quite flexible and permits various arrangements.

In general private centres do not collect more blood than they need. Some of them have recourse to professional donors who are comparatively low paid and then resell the blood at a profit. Others have contracts with the Red Cross and can count on its aid in case of need.

Finally there are centres which are purely military the Army Air Force and Navy being authorized to take blood from donors who want particularly to give to those wounded in battle.

The blood bank

The Blood and Plasma Exchange Bank of New York University is one of the largest private blood centres drawing blood from 350 to 400 donors per day by means of an assembly line staff of 140 persons. Blood is bought at \$5.00 a pint and resold at \$12. The bank works only for New York State and has no contract with the Red Cross. Dr. Carrière describes the operation of this centre.

Blood is drawn from 8.00 A.M. until 10.00 P.M. without interruption. Donors can give blood only at six week intervals. A system of identification cards and labelling of tubes and bottles aids in avoiding errors and facilitates the steps of the operation and the reading of results of analyses. The donor is first pricked in the finger a drop of blood serves for the determination of haemoglobin concentration and for the initial typing. After a medical examination the donor passes into a room where the blood is drawn. He is provided with a cooled bottle containing 120 ml of an anticoagulant solution and with four haemolysis tubes one containing a mixture of Wintrobe anticoagulant and the other three intended for a serological test (VDRL) the Simonin repetition test and a cross matching test. When the blood has been drawn two of the tubes are sent to two different posts so that tests may be run simultaneously at one place a blood typing test with the aid of A and B antisera and Rh determination with Rh antiserum are performed (if the Rh is found negative the blood is sent to an Rh laboratory) at the other natural agglutinins are determined by means of a suspension of fresh red blood corpuscles (A and B).

The laboratories attached to the blood bank are highly specialized. They perform repeated control tests which might seem excessive but which give the doctors using the blood almost absolute security.

Other questions

In the rest of his report Dr. Carrière summarizes the minimum requirements established by the National Institutes of Health for the titre, avidity and potency of anti A

anti B anti Rh and other sera. He calls attention to recently discovered antigens and antibodies. Finally he discusses the preparation and conservation of blood and its derivatives at the laboratories of Professor E. J. Cohn at Harvard Medical School. The development of a new mobile self contained unit of modest size may make possible at regional blood banks the separation of blood elements and the fractionation of plasma proteins until now very complicated procedures. This apparatus has as new features the use of recipients and connecting tubes with non wettable walls reproducing as far as possible the characteristics of blood vessels vertical centrifugation the use of heavy metals as precipitating agents of the various constituents of plasma, and the use of ion exchange resins for making the blood non coagulable or for removing from blood derivatives all traces of metal which may have been introduced in their preparation. The American Red Cross is much interested in the practical application of this apparatus and in the conservation of the blood elements which are more easily obtained by its use. The latter problem is the subject of intensive research being conducted at the Harvard Medical School laboratories under the direction of Drs. Pennell, Sloviter and Tullis.

Notes and News

Dr V. A. Sutter Appointed Assistant Director-General

Dr V. A. Sutter, a member of the WHO staff since 1950, has been named Assistant Director General in charge of the Department of Advisory Services, replacing Dr. M. G. Candau, who is now Assistant Director of the Pan American Sanitary Bureau, Regional Office of WHO for the Americas.¹

Dr Sutter, a citizen of El Salvador, studied at the National University of San Salvador and at Johns Hopkins University, Baltimore, Md., U.S.A. Before joining WHO he held various posts among them that of medical officer of the Institute of Inter American Affairs, in which capacity he was in charge of the co-ordination of medical and public health activities of the Serviço Especial de Saúde Pública of Brazil, director of public health services in El Salvador from 1939 to 1944, and chief medical officer of UNRRA in China. At WHO he has occupied the posts of Director of the Division of Communicable Diseases and Director of the Division of Organization of Public Health Services. In his new position Dr Sutter will head four of the Organization's major divisions: Communicable Disease Services, Organization of Public Health Services, Education and Training Services, and Environmental Sanitation.

Biostatistical Centre To Be Established

In collaboration with the United Nations and WHO, the Government of Chile is establishing in Santiago an Inter American Center of Biostatistics. International aid, consisting of provision of expert and administrative personnel, equipment and supplies and fellowships, is to be given for five years, subject to availability of funds. WHO's contributions are being made through the expanded programme of technical assistance for economic development.

The objectives of the centre will be: (1) to organize and develop a training centre for vital and health statistics for Latin America; (2) to improve the statistical services of the

Chilean Government so that they may serve as a model for demonstration and training purposes (3) to develop statistical and research methods and records which will be applicable in Latin American countries and (4) to develop and demonstrate a system of co-ordination among the central statistical services the public health and social services the civil registration services and other relevant agencies

Influenza in 1951-2

A preliminary report from the World Influenza Centre London gives information concerning influenza in 1951-2. It reveals that although there were scattered outbreaks in a number of widely separated places during the winter of 1951-2 there was no evidence of spread comparable to that of the 1950-1 epidemic¹. The viruses isolated in the two periods were also different the majority of the 1950-1 strains were of the A prime type whereas all of the 35 strains received at the Centre during the winter of 1951-2 were influenza B viruses. The latter were all closely related to one another serologically and to the Crawley (England 1946) virus and were only distantly related to the Lee strain. Sixteen strains were received from Italy 11 from the USA 3 from England 2 from the Netherlands and 1 each from Australia Denmark and India.

Reports from South Africa show some influenza there during the early part of winter (May and June 1952). Six strains have been received from Cape Town and two from Johannesburg all of the A prime type Liverpool subtype.

International Sanitary Regulations Enter into Force

On 1 October 1952 the International Sanitary Regulations entered into force. The Regulations which were adopted unanimously by the Fourth World Health Assembly in May 1951² represent the standardization and modernization of about 13 international sanitary conventions in which countries of the world participated though not with any great degree of uniformity from 1907 to 1944.

Having been adopted by the World Health Assembly the new Regulations will not have to be ratified by the governing bodies of the Organization's Member States as was the case with preceding regulations of this kind. Application of the Regulations will be studied annually by a WHO expert committee so that technical advice may be given on their application and new knowledge concerning epidemic and quarantinable diseases incorporated into them at some future date.

The International Sanitary Regulations should greatly simplify international travel and transport. Their aim is to protect travellers and countries against the dangers of epidemic diseases and at the same time to prevent unnecessary delays in travel and transport because of excessive or arbitrary sanitation measures.

New Projects in Eastern Mediterranean Region

Nursing school in East Pakistan

WHO and UNICEF are assisting in the establishment of a new school of nursing at the Medical College Hospital Dacca East Pakistan. Miss Dorothy Potts of Canada has gone to East Pakistan to head an international team which will initiate this project. Before proceeding to Dacca Miss Potts in the company of the Regional Nursing Adviser Miss Inger Goetzsche will visit WHO/UNICEF maternal and child health projects in Karachi Lahore and Peshawar.

Veneral disease control in Saudi Arabia

Dr Abdul Aziz El Ghouroury of Cairo Egypt has been sent by WHO to help the Government of Saudi Arabia in a project to control venereal diseases. Dr El Ghouroury a serologist will aid in establishing a venereal disease-control laboratory and training centre in Djedda in surveying the incidence of venereal diseases in the country and in organizing mass treatment. Other personnel to be provided by WHO for this project includes a venereologist and a public health nurse both of whom are being seconded by the Egyptian Government to the Organization for the duration of the international assistance.

Endemic Yellow Fever Areas

Since 1947 WHO has been responsible for the delineation for purposes of quarantine control of the endemic yellow fever areas in Africa and America. The latest delineation

FIG 5 AFRICAN ENDEMIC YELLOW FEVER AREA

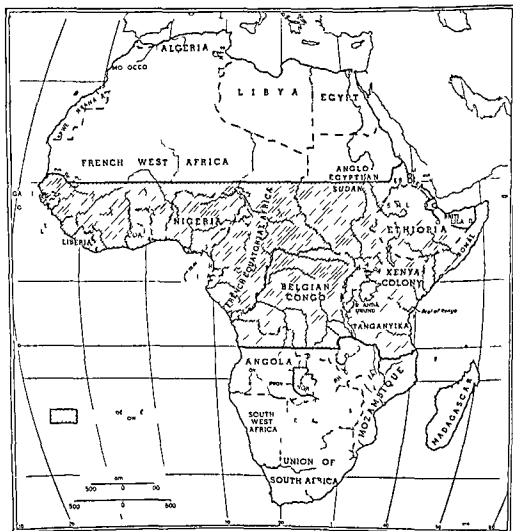


FIG 6 AMERICAN ENDEMIC YELLOW FEVER AREA



of these areas is shown in fig 5 and 6 which were published with accompanying text in a supplement to a recent *Weekly Epidemiological Record*⁴

Adoption of the International Pharmacopoeia as National Pharmacopoeia

Israel is the first of the WHO Member States to adopt the *Pharmacopoeia Internationalis* as its national pharmacopoeia. An order was recently placed for several hundred copies with a special page in the front bearing an identifying inscription in French or English and in Hebrew.

Lectures on Public Health Published

One of the by products of the medical teaching mission sent to Israel in the fall of 1951 under the auspices of WHO and the Unitarian Service Committee ¹ is the publication by the Committee of lectures on public health delivered there by Dr Karl Evang Director General of Public Health of Norway Dr John E Gordon Professor of Preventive Medicine and Epidemiology Harvard University Boston Mass USA and Mr R G Tyler Professor of Sanitary Engineering University of Washington Seattle Washington USA ² A foreword by Dr E Grzegorzewski Director of the WHO Division of Education and Training Services explains the purpose of the teaching mission and briefly describes its achievements This is followed by three lectures by Dr Evang Public health its scope and its place in the central governmental administration Sickness insurance and its relation to preventive medicine and Trends in the development of hospital functions and administration three lectures by Dr Gordon The newer epidemiology The epidemiologic method and "American epidemiology in brief perspective" and two lectures by Mr Tyler The sewage disposal problem in unsewered areas and Fluoridation of public water supplies

Ch on World Hlth Org 1952 6 3

Evang K Gordon J E & Tyler R G (1951) *Public health lectures* Unitarian Service Committee Inc Boston Price \$1.00

CORRIGENDUM

1952 Vol 6 No 7 8 (August), p 178

Delete third paragraph starting "The latter arguments"

Insert As a result of the discussions a resolution was adopted (WHA5.43) in which it was requested that the Executive Board in close collaboration with the Director General undertake a thorough study of the rules and criteria for determining the assignment of any territory to a geographical area making inquiries among the interested Member States and reporting the results to the Sixth World Health Assembly Pending the results of this study the Director General was authorized to take the necessary steps to provide services to territories not yet assigned to regions through Headquarters under the title "Region undesignated" However provisional assignment to the regional organization of their choice was to be made in the case of Member States Associate Members and territories or groups of territories for which a request for assignment to a region had been presented Accordingly Tunisia and Morocco (that part under French protectorate) were assigned provisionally to the European Region Spanish Morocco remains attached to the African Region



CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
Medical aspects of social security	343
Health and standards of living	347
Antityphus campaign in Afghanistan	351
Health education in Upper Egypt	355
Review of WHO Publications	
Comparative health legislation tuberculosis	357
Prevalence and danger of whooping cough	359
Measles its recent trend	363
Reports from WHO Fellows	
Vocational rehabilitation in the United Kingdom	367
Notes and News	
Environmental sanitation programme in Afghanistan	369
New WHO posts created in South East Asia	370
Venereal disease and health education project in Cairo	370
Public health adviser appointed for Ethiopia	370
Health projects for Syria	370
Publication of International Pharmacopoeia lauded	371
World Health Day	371

SCHEDULE OF MEETINGS

- 28 November **FAO/WHO Joint Committee on Nutrition (in co-operation with CTCA**
4 December **Nutrition Conference), Fajara Gambia**
- 3-9 December **Expert Committee on Professional and Technical Education of Medical**
 and Auxiliary Personnel second session Nancy
- 5-10 December **Expert Committee on Plague, second session Bombay**

1953

- 12 January **Executive Board eleventh session Geneva**

MEDICAL ASPECTS OF SOCIAL SECURITY

At its 35th Session in June 1952 the International Labour Conference adopted a Convention on Minimum Standards of Social Security¹ which had been the object of much study for more than two years. Part of this Convention deals with medical care services covering any morbid condition and pregnancy and confinement. The population protected may be 20% of the total population, 50% of all employees or 50% of all residents. The minimum standard requires medical benefit in case of illness to include general practitioner care, specialist care, essential pharmaceutical supplies prescribed by a medical or other qualified practitioner and hospitalization where necessary. Maternity benefits comprise prenatal confinement and postnatal care either by medical practitioners or by qualified midwives and availability of hospitalization when necessitated by the circumstances of the case.

In the preparation of this part of the Convention the International Labour Organisation (ILO) requested and obtained WHO collaboration. Last December (1951) the Director General with the approval of the Executive Board convened a special Consultant Group to review the medical provisions of the Convention which was at that time still in the proposed stage. Dr Rene Sand, Professeur honoraire a l'Universite libre de Bruxelles (Belgium) and world renowned authority on social medicine acted as Chairman of a group of five other well known specialists: Dr E. Aujaleu, Directeur de l'Hygiene Sociale au Ministere de la Sante publique et de la Population (France); Dr A. Leslie Banks, Professor of Human Ecology, University of Cambridge (United Kingdom of Great Britain and Northern Ireland); Dr C. van den Berg, Director General for International Health Affairs (Netherlands); Dr J. Axel Hojer, former Director General of Public Health (Sweden); and Dr Henry E. Sigerist, Research Associate, Yale University, USA (resident in Switzerland).

The statement of this Consultant Group which was submitted to the ILO and published in full by that organization as an appendix to the report *Minimum standards of social security*,² has been the subject of criticism by the World Medical Association (WMA). This organization has voiced objections in particular to the group's remarks concerning the remuneration of the medical profession within the framework of a social security plan and has criticized WHO for not having included a member of the practising medical profession in its Consultant Group.³ The WMA has submitted to the ILO a statement of its views and an expression of its philo-

ILO Committee on Social Security
 Official Records, World Health Organization, 36, 11
 1. *Minimum Standards of Social Security* (1952) *International Labour Office*
 2. *Minimum Standards of Social Security* (1952) *International Labour Office*
 3. *World Medical Association* 1954, 134

sophy and principles with regard to social security. This statement has been reproduced in several publications.⁵

The report of the WHO Consultant Group, which reflects the opinions of the members of the group and which is not an expression of a WHO policy⁶ is of interest because it outlines the basic principles and issues in the organization of medical care services as part of a social security system. While the recommendations contained in the report were not always applied in formulating the final draft of the ILO Convention, they were often referred to in considering the proposed medical care provisions and sometimes led to modification of the original text of the Convention. A summary of some of the more important points of the Consultant Group's statement follows.

Coverage

The group felt that an organized medical care programme should cover as large a percentage of the population as possible and that when universal coverage was not possible, priority should be given to persons of lower economic levels, since their relative need for health services is greater. Children, too, should receive special consideration—in the interests of preventive medicine and the welfare of the next generation. Recipients of public assistance should be taken care of, medically speaking, by the programme which covers the general population.

Health Services

Health services comprise (a) constructive services including environmental improvements, sound nutrition, etc.; (b) personal preventive services, such as immunizations, periodic health examinations, etc.; (c) curative services consisting of diagnosis and treatment of disease and injury, and (d) restorative services meaning measures necessary to help the individual to return to full working and living capacity. The group urged that more emphasis be placed on preventive services and that a medical care programme should provide services not only for persons with morbid conditions and for pregnant women, but also for persons in presumably good health.

⁵ *U.S. Weekly Digest* 1954: 245. *Brit. med. J.* (1954) 2: Suppl. to No. 4778, p. 83. *J. Amer. med. Ass.* (1952) 149: 489.

⁶ This report was submitted to the Executive Board at its ninth session, and the following resolution was adopted:

The Executive Board

Having in mind resolution EB9.R35 of the eighth session of the Executive Board on co-operation with the International Labour Organization,

Having reviewed the document on Medical aspects of social security prepared by the WHO Consultant Group for consideration by the International Labour Organization in formulating its new Conventions on Social Security,

1. NOTES the report and approves its transmission to the International Labour Organization with the explanation that the opinions expressed therein represent the views of members of the Board and should not be taken as an expression of policy by the World Health Organization.

2. REQUESTS the Director-General to continue the maintenance of co-operative working relationships with the International Labour Organization on the health and medical aspects of social security (Resolution EB9.R12. *Off. Rec. World Health Org.* 40: 5).

Noting the provisions of the Convention with regard to general practitioner care specialist care and hospitalization the WHO Consultant Group called attention to the different interpretations in different countries of these terms. It recommended that the meaning and content of general practitioner care should be left for each country to decide that each country should develop formal standards for the designations of medical specialists and that hospitalization should be understood to mean all the necessary supportive services in a hospital as well as room and board. Top priority in any medical care programme should be given to the provision of the combination of the general physician and his workshop.

Personnel and Facilities

Qualifications for practising medicine and standards for the operation of hospitals were considered by the group. Licensure by the State should be required for all medical and allied personnel. When the services of auxiliary workers are utilized their activities should be supervised by scientifically trained medical practitioners. Hospitals should meet standards established and applied by a national authority.

Organization and Administration

While recognizing that many nations consider it necessary to require that the beneficiaries of the medical care programme share in the cost of the services received the WHO Consultant Group advised against such a system on the grounds that cost sharing might cause hardship or discourage procurement of needed services. In any case a means test should not be used as the determining factor in payment for services. It was recommended that in underdeveloped countries any cost sharing device should involve no more than token payment by the beneficiary.

With regard to the question of administrative responsibility for medical care programmes in relation to public health administration the group urged that as an ultimate goal complete unification of the administration of medical care and preventive services should be developed. Until this goal is reached there should be a system of joint planning of the services at the top level and extending down the line into local communities as far as is possible.

Special Organizational Problems

Consideration was given by the group to the problem of the relationship between national and local levels of administration of medical care. Although no fixed rule could be laid down regarding this relationship the group recommended a middle course between complete central domi-

nation and complete local autonomy. Long term planning and co-ordination of services should be the responsibility of the national administration but considerable latitude must be allowed to local authorities in developing and operating the medical care programme so that it may meet local needs.

The exercise of local initiative is essential in winning the co-operation of local people for the most effective function of the entire medical care programme.

The three most widely practised systems of remuneration for services of medical practitioners (fee for service, fee per capita and salary) were discussed and the advantages and disadvantages of each weighed by the group. Whatever the method for payment of physicians they should be assured an adequate reward for their work and their patients should be assured continuity of care and a satisfactory doctor-patient relationship.

Part of the funds of a medical care programme should be used for postgraduate education of health personnel and for scientific research, the latter to be the responsibility of independent councils or institutions which are immune from political or commercial pressures.

Other problems to which the Consultant Group gave particular attention were:

1. The need for close working relationships among general physicians, specialists, hospitals, laboratories and the services of other related personnel and facilities. Group clinics and the organization of hospitals within a regional framework were suggested as aids to the development of such relationships.

2. The provision of medical care for rural populations. The construction of health centres, special inducements to physicians to interest them in rural practice and the provision of transportation facilities were mentioned as possible aids in solving this problem.

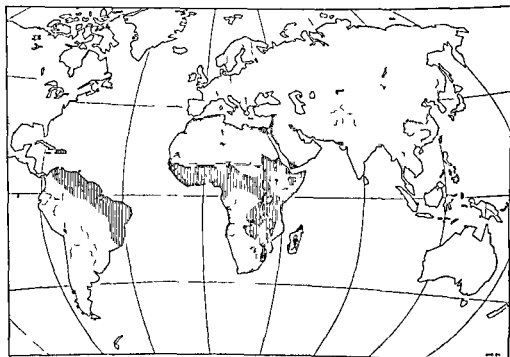
3. The administrative machinery for the operation of medical care programmes. The group urged that access to doctors be simple and that the patient as well as professional groups be represented in the administrative authority of the programme.

In conclusion, the WHO Consultant Group classified under four headings—material, economic, psychological and technical—the major obstacles to the provision of good medical care. Special social measures are required to overcome these obstacles: general industrial development and family welfare services to overcome the material deficiencies; social security systems to help cope with the economic impediments; education to combat the psychological difficulties; and development of medical science, medical personnel and facilities and proper administrative methods to surmount the technical problems. While a social security system cannot provide all of these measures, it is one key to making medical care available to the people of a nation.

FIG 1 APPROXIMATE GEOGRAPHICAL DISTRIBUTION OF MALARIA



FIG 2 APPROXIMATE GEOGRAPHICAL DISTRIBUTION OF BILHARZIASIS



vesical (*S. haematobium*)



intestinal (*S. mansoni*)



due to *S. japonicum*

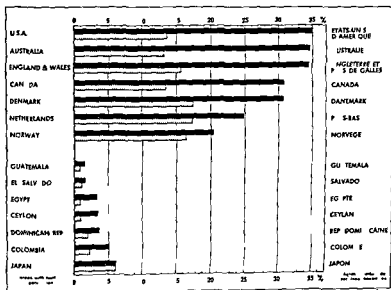
by penicillin treatment gastro intestinal disorders by improvements in environmental sanitation etc



In the more advanced countries attention is focused more on the degenerative diseases which are responsible for a large proportion of deaths Fig 3 compares the mortality from degenerative diseases in underdeveloped and developed countries it should be noted however that the differences are due in part at least to better diagnosis in the latter countries

Diseases of the heart and circulatory system, and cancers and tumours now account for over 50% of all deaths in eight countries the eight countries which are also those with the highest per capita national incomes

Stress diseases such as gastric and duodenal ulcers and mental ill health also constitute major health problems in many of the more developed countries

FIG 3 COMPARATIVE MORTALITY FROM DEGENERATIVE DISEASES IN UNDERDEVELOPED AND DEVELOPED COUNTRIES



 Percentage of total deaths due to diseases of the heart and circulatory system
 cancer and other malignant tumors

Medical Personnel

Even if all nations were financially capable of establishing the health services required to cope with the needs of their people they would still

be faced with what is probably the most formidable problem—lack of medical personnel. There are about 900,000 doctors in the world today, twice this number are required immediately to meet just the elementary needs. The following table gives an idea of the unequal distribution of physicians.

TABLE I — INHABITANTS PER PHYSICIAN

Under 2 000	2 000-4 999	5 000-9 999	10 000-49 999	50 000 and over
Argentina	Brazil	Algeria	Aden	Brit Somaliland
Australia	Brit Guiana	Bolivia	Angola	Ethiopia
Austria	Dominican Republic	Ceylon	Buchuanaland	Indo China
Belgium	Ecuador	Guatemala	Belgian Congo	Indonesia
Canada	Egypt	Iraq	British Borneo	Liberia
Cyprus	El Salvador*	Jamaica	French Equatorial Africa	New Guinea
Denmark	Finland	Madagascar	French Togoland	Nigeria
France	Hong Kong	Malaya	Kenya	Papua
Greece	Jordan	Martinique	Morocco	Ruanda Urundi
Iceland	Nicaragua	Paru	Mozambique	
Ireland	Panama	Southern Rhodesia	Northern Rhodesia	
Israel	Paraguay	Syria	Pakistan	
Japan	Poland	Tunisia	Sierra Leone	
Lebanon	Puerto Rico		Tanganyika	
Luxembourg	Singapore		Uganda	
Netherlands	Trinidad and Tobago			
New Zealand	Turkey			
Norway	Union of South Africa			
Portugal	Venezuela			
Sweden	Yugoslavia			
Switzerland	Zanzibar			
United Kingdom				
USA				

Even these incomplete and discouraging figures do not give the whole picture of the availability of doctors since there is a tendency for qualified physicians to concentrate in cities and towns to the neglect of rural populations.

The scarcity of nurses and of auxiliary medical personnel is equally great. However in many parts of the world special attention is being

devoted to training auxiliary personnel in the underdeveloped countries to provide a limited service until the number of qualified doctors becomes adequate in more advanced countries to extend the perimeter of the health services and to relieve members of the medical profession of some of the routine duties which prevent them from utilizing their professional skills to the full

Health and Better Living

The economic and social significance of health cannot be overestimated. The effects of successful efforts to control some of the mass diseases are being demonstrated in various parts of the world. In Greece for example DDT spraying operations reduced the incidence of malaria from 2 000 000 cases in 1942 to 40 000 in 1949 which meant a saving of man workdays equivalent to an addition of 100 000 200 000 workers per year and an increase in crop production by over 20 % in one particular area. Ill health impedes industrialization and educational efforts because of absenteeism and inability to work efficiently. In Indonesia mass treatment of yaws a debilitating treponemal disease which responds to penicillin therapy resulted in a general improvement in living conditions in education and in working capacity. Population trends are greatly affected by health advances. In 1934 only four cities in Uruguay had safe water supplies a considerable investment in sanitary services increased this number to 157 by 1949 with a concomitant decrease in infant mortality rate from 95.7 to 42.1.

In summing up the effect of health on standards of living the report concludes. The control of disease is a precondition of economic and social development. The advance of any community depends on the extent to which it reduces the burden of ill health which squanders human resources wastes food in nourishing bacteria and parasites produces social lethargy and prevents people and countries from developing their full capacities.

ANTITYPHUS CAMPAIGN IN AFGHANISTAN

In April 1951 a tripartite agreement was signed in Kabul the capital of Afghanistan between the Government of Afghanistan the United Nations International Children's Emergency Fund (UNICEF) and WHO concerning a plan of operations against typhus. The Government agreed to furnish the necessary staff and transport and part of the requisite DDT. UNICEF to donate the bulk of the DDT the spraying equipment and

various supplies and WHO to provide technical assistance and supervision. A member of the WHO malaria team in Afghanistan was to be in charge of the programme.

This antityphus campaign, which was to take place the following winter, was not the first of its kind, in 1949 during an epidemic, the Afghanistan Government had requested WHO to supply typhus vaccine. WHO sent an expert consultant, together with the vaccine requested. The

FIG 4 ANTITYPHUS CAMPAIGN IN AFGHANISTAN



Kabul team members dust children with DDT

consultant investigated the situation and began training personnel for large scale delousing. The Organization later sent two more experts and, in the following year i.e. in the winter of 1950-1 the first successful anti typhus campaign was carried out in the cities of Kabul and Kandahar.

Shortly thereafter a number of petitions were received by the Government asking it to extend the operations to other areas of the country

Typhus is endemic in Afghanistan particularly in the provinces of Kabul and Kandahar and assumes epidemic proportions every winter. During the winter of 1947-8 nearly 1 000 cases were reported in the province of Kandahar alone. Mortality from typhus is always high. The transmission of the disease is facilitated by the fact that a large part of the population lives under very poor economic conditions with considerable over crowding in small dwellings during the winter.

The 1951-2 Campaign and Results

The new campaign covering the provinces of Kabul and Kandahar was begun on 31 December 1951. According to the plan of operations it should have started on about 20 November in Kabul and on 1 December in Kandahar in order to deal with the beginning of the annual epidemic but there was some delay owing to difficulties in supplying DDT. The campaign lasted until 29 February 1952 in the Kabul area and until 12 March 1952 in the province of Kandahar. The total number of persons dusted with DDT in these two provinces amounted to 312 832 in answer to requests; an additional 70 000 persons were treated in other provinces.

Not a single case of louse borne typhus occurred in the city of Kandahar during that winter and only four cases were recorded in the city of Kabul in spite of the late start of the field operations. In the entire province of Kandahar where the operations reached the most densely populated centres only four cases were recorded three of which had occurred before the beginning of the campaign.

The population greatly appreciated the preventive measures taken and co-operated willingly with the teams showing great interest in the work. The Governor of the province of Kandahar, certain local authorities and numerous citizens expressed their appreciation in writing to the Ministry of Public Health.

Methods and Organization

In carrying out this successful project the health authorities had drawn on the recommendations formulated by WHO after the 1950-1 campaign. The Director General of Public Health had personally organized a propaganda campaign both before and during the actual antityphus operations. Numerous newspaper articles and radio broadcasts were prepared in addition to circulars which were sent as early as October to physicians in the country and to governors of the provinces. The public reacted very favourably as was seen from the comments which appeared in the local press.

various supplies, and WHO to provide technical assistance and supervision. A member of the WHO malaria team in Afghanistan was to be in charge of the programme.

This antityphus campaign which was to take place the following winter was not the first of its kind, in 1949, during an epidemic, the Afghanistan Government had requested WHO to supply typhus vaccine. WHO sent an expert consultant, together with the vaccine requested. The

FIG 4 ANTITYPHUS CAMPAIGN IN AFGHANISTAN



Kabul team members dust children with DDT

consultant investigated the situation and began training personnel for large-scale delousing. The Organization later sent two more experts and in the following year i.e., in the winter of 1950-1 the first successful antityphus campaign was carried out in the cities of Kabul and Kandahar.

in Afghanistan an epidemic of louse borne typhus can be prevented or controlled by systematic delousing of the population with 10% DDT powder. One dusting with DDT of the entire population at the beginning of the winter conducted under proper supervision will afford reliable protection.

The work must be strictly supervised by medical officers who are really interested in the problem and who should if possible be sent to the same areas each year since it is necessary that they know the district and that they be known by the people.

The campaign also made it possible to determine the amounts of DDT required and the expense to be anticipated for future campaigns. For one winter it is necessary to count on less than 64 g ($2\frac{1}{4}$ ounces) of DDT dusting powder per person. The average per capita cost of the antityphus operations is approximately 0.60 afghani (\$0.03). The cost of using 10% DDT powder is only one seventh that of large scale vaccination. 1 ml of typhus vaccine costing in Kabul 4 afghani (\$0.19).

HEALTH EDUCATION IN UPPER EGYPT

Health education is a vital part of all WHO field projects. Whether the field demonstration be concerned with the control of a specific disease—such as syphilis, malaria or tuberculosis—or with the improvement of maternal and child health, it is necessary to prepare the people psychologically for the work which is to be done and to try to make the most of what is often an unique opportunity to teach more healthful ways of living.

An interesting illustration of one type of health education activity in which WHO teams participate is afforded by a project undertaken by the Egyptian Government in the summer of 1952 at Edfa, an isolated village in Upper Egypt. Here a health education programme was to be carried out in conjunction with a venereal disease control campaign which was to include: (a) a complete serological survey of the population of about 9 000 persons; (b) treatment with penicillin of all infected persons and their contacts; (c) an epidemiological study of the incidence of syphilis in relation to the seasonal migration of the workers from the village to the port areas; and (d) re-examination of the population six months and one year after the treatment had been given.

It was planned that the project should be carried out largely by trained Egyptian personnel in order to facilitate the establishment of good rapport with the people of the village. Among the workers were volunteers from two community agencies: the Ruad, an organization for young men which sent two medical students skilled in recreational activities for boys; and the

The campaign assumed much larger proportions than that of the previous year. It covered the main cities and was then extended to surrounding, and later to distant, towns and villages, reaching 84 localities in all.

In the provinces of Kabul and Kandahar alone 172 workers participated in the campaign—148 men, 21 women and 3 boys under twelve years of age. The latter two groups carried out the operations among women in the more conservative communities. Of this total staff 10 were voluntary unpaid workers. 21 were soldiers seconded by the army for training and 8 were malaria inspectors. The malaria inspectors were accustomed to carrying out public health measures and inspired confidence among the population. Staff normally engaged in the antimalaria campaign could generally be utilized to advantage in the antityphus activities during the winter.

The staff was divided into various groups, each of which was supervised by an inspector and sub divided into teams, which made house-to-house visits. Each person together with his clothing and bedding was dusted once with DDT, typhus vaccine was given only to persons who might have been infected by typhus patients. When the teams were working in towns, the local authorities assigned persons to accompany them through the streets in the crowded areas to ensure that no house was missed. The word DDT and the date of treatment were chalked on the door of every house. In the course of the campaign cinemas, public baths and other public places, together with public vehicles, were thoroughly dusted with DDT once a week.

Supplies

The author of the final report on this project makes a number of interesting remarks concerning the supplies used during the campaign.

1 It was possible to use successfully for dusting purposes DDT which was too old for use in residual spraying operations in malaria control.

2 Experience showed that a mixture of DDT and talc when mixed by hand or by shovel was not sufficiently homogenous and did not give a uniform concentration of 10% DDT. It is necessary to mix the talc and DDT by mechanical means under the supervision of someone competent in this procedure.

3 Locally and hastily prepared talcum powder is often too coarse to adhere to garments and furthermore clogs the spray guns.

Conclusions

The results of the 1951-2 antityphus campaign confirmed the findings made the previous year by the WHO team. Under the existing conditions

as posters and pamphlets and home visits. Particularly effective was a film made in the village during the campaign and then shown to the people. Many other health problems in addition to venereal disease were covered by the films and the discussions. The programme was aimed to make the people aware of their own problems and to show them how they might help themselves to better their living conditions.

It is too early to evaluate the final results of the project. However, valuable lessons in health education techniques were gained, especially in ways of winning the co-operation of the people of a community through the aid of official and non official authorities and agencies.

Review of WHO Publications

COMPARATIVE HEALTH LEGISLATION TUBERCULOSIS

In the first of a series of studies on comparative health legislation, the *International Digest of Health Legislation* surveys laws and regulations concerning tuberculosis which have been enacted in various countries during recent years, particularly since 1947¹. Although the study makes no claim to being complete, since much of the relevant information has not been made available by the countries concerned (legislation of 26 countries and 12 States or territorial subdivisions is included), it indicates present trends in tuberculosis legislation which in turn reflects progress and trends in the control of the disease. Many of the laws reviewed are revisions of previous legislation which had become out of date because of medical advances. The measures adopted deal chiefly with notification of tuberculosis, case finding, examinations, isolation of tuberculous persons, BCG vaccination, occupational rehabilitation and control of bovine tuberculosis.

Notification of cases of tuberculosis to health authorities is an essential element in all legislation for the control of tuberculosis, though provisos vary from place to place with regard to the form of the notification, the types of tuberculosis which are notifiable, and the categories of persons responsible for making the notification. General notification is required in Costa Rica, Finland, Greece, Honduras, Lebanon, Switzerland, and certain States of the USA. Communicability of the disease is the determining factor for notification in several localities (e.g. City of New York, Canton of Zurich (Switzerland) and Yugoslavia), in others even suspected cases are to be notified (e.g. Finland, Ireland and New Zealand). The

Catholic Association for Social Work, which sent four social workers and a young man trained in community recreational work.

Since this was the first time in Egypt that the population of an entire village was to be subjected to blood testing and since the isolation of the village and the customs of the people presented particular problems three weeks of pre service training were given to the workers in preparation for six weeks in the field. This training programme was conducted at the Cairo Venereal Disease Demonstration Centre and took the form of a seminar in which the instructors were people who had had working experience in rural Egypt. Every member of the team, from doctors to truck drivers was included in the training with the result that all were able to aid in winning the co operation of the village people.

Local leaders were called upon and their support enlisted. Simultaneously with the initiation of the blood testing programme the social workers and the volunteers from the Ruad began their work—visiting homes arranging blood tests and organizing health education programmes in connexion with recreational activities. A particular effort was made by the social workers and the nurses to reach the women of the village who live in traditional seclusion. Never before had there been a public meeting for women in the village, but the team was successful in arranging two showings of films for them as well as special programmes held in one of the schools.

Little opposition to the taking of blood samples was experienced at first, later when no one had as yet received treatment after ten days of testing rumours began to circulate concerning the use being made of the blood. One interesting rumour was that the blood was being used in the manufacture of certain beverages. With the help of the educated men of the village, team members squelched these stories. Treatment of the positive reactors was begun immediately, and the confidence and co operation of the villagers were regained. It was interesting to note that some of the people who had been most opposed to the project in the beginning were later won over to such an extent that they even aided by delivering speeches.

The success of the health education efforts was evidenced by the fact that about 85% of the population submitted to blood tests. Three hundred persons received treatment and information for the epidemiological study of syphilis in the village was gathered by the social workers in follow up visits to the homes of those treated.

A report on the health education aspects of the Edfa project from the Propaganda Section of the Egyptian Ministry of Health states: "We had to teach the people by all means in all places and at any time. Some of the means employed were films (25 on health subjects and 12 of general interest were shown) lectures given not only by team members but also by government and religious leaders of the community visual aids such

as posters and pamphlets and home visits. Particularly effective was a film made in the village during the campaign and then shown to the people. Many other health problems in addition to venereal disease were covered by the films and the discussions. The programme was aimed to make the people aware of their own problems and to show them how they might help themselves to better their living conditions.

It is too early to evaluate the final results of the project. However, valuable lessons in health education techniques were gained, especially in ways of winning the co-operation of the people of a community through the aid of official and non-official authorities and agencies.

Review of WHO Publications

COMPARATIVE HEALTH LEGISLATION TUBERCULOSIS

In the first of a series of studies on comparative health legislation, the *International Digest of Health Legislation* surveys laws and regulations concerning tuberculosis which have been enacted in various countries during recent years, particularly since 1947.¹ Although the study makes no claim to being complete, since much of the relevant information has not been made available by the countries concerned (legislation of 26 countries and 12 States or territorial subdivisions is included), it indicates present trends in tuberculosis legislation which in turn reflects progress and trends in the control of the disease. Many of the laws reviewed are revisions of previous legislation which had become out of date because of medical advances. The measures adopted deal chiefly with notification of tuberculosis, case finding, examinations, isolation of tuberculous persons, BCG vaccination, occupational rehabilitation and control of bovine tuberculosis.

Notification of cases of tuberculosis to health authorities is an essential element in all legislation for the control of tuberculosis, though provisions vary from place to place with regard to the form of the notification, the types of tuberculosis which are notifiable and the categories of persons responsible for making the notification. General notification is required in Costa Rica, Finland, Greece, Honduras, Lebanon, Switzerland and certain States of the USA. Communicability of the disease is the determining factor for notification in several localities (e.g. City of New York, Canton of Zurich (Switzerland) and Yugoslavia); in others, even suspected cases are to be notified (e.g. Finland, Ireland and New Zealand). The

Catholic Association for Social Work, which sent four social workers and a young man trained in community recreational work.

Since this was the first time in Egypt that the population of an entire village was to be subjected to blood testing and since the isolation of the village and the customs of the people presented particular problems three weeks of pre service training were given to the workers in preparation for six weeks in the field. This training programme was conducted at the Cairo Venereal Disease Demonstration Centre and took the form of a seminar in which the instructors were people who had had working experience in rural Egypt. Every member of the team, from doctors to truck drivers was included in the training with the result that all were able to aid in winning the co operation of the village people.

Local leaders were called upon and their support enlisted. Simultaneously with the initiation of the blood testing programme, the social workers and the volunteers from the Ruad began their work—visiting homes arranging blood tests, and organizing health education programmes in connexion with recreational activities. A particular effort was made by the social workers and the nurses to reach the women of the village who live in traditional seclusion. Never before had there been a public meeting for women in the village, but the team was successful in arranging two showings of films for them as well as special programmes held in one of the schools.

Little opposition to the taking of blood samples was experienced at first later when no one had as yet received treatment after ten days of testing rumours began to circulate concerning the use being made of the blood. One interesting rumour was that the blood was being used in the manufacture of certain beverages. With the help of the educated men of the village team members squelched these stories. Treatment of the positive reactors was begun immediately and the confidence and co operation of the villagers were regained. It was interesting to note that some of the people who had been most opposed to the project in the beginning were later won over to such an extent that they even aided by delivering speeches.

The success of the health education efforts was evidenced by the fact that about 85% of the population submitted to blood tests. Three hundred persons received treatment and information for the epidemiological study of syphilis in the village was gathered by the social workers in follow up visits to the homes of those treated.

A report on the health education aspects of the Edfa project, from the Propaganda Section of the Egyptian Ministry of Health states: "We had to teach the people by all means in all places and at any time. Some of the means employed were films (25 on health subjects and 12 of general interest were shown) lectures given not only by team members but also by government and religious leaders of the community visual aids such

Edward Island (Canada) Tunisia and the United Kingdom of Great Britain and Northern Ireland

The *Digest* survey concludes that present health legislation regarding tuberculosis "indicates above all the desire of legislators to aid the prevention of tuberculous infection and that such legislation based as it is on medical advances in tuberculosis control will lead to a subsequent decline in the tuberculosis morbidity and mortality rates

PREVALENCE AND DANGER OF WHOOPING COUGH

Among the communicable diseases of infancy whooping cough causes the highest death rate in most European countries as well as in the USA where between 1940 and 1948 whooping cough alone caused three times more deaths among children under one year old than measles mumps chicken pox German measles scarlet fever diphtheria poliomyelitis and meningitis together. There is thus no justification for considering the disease as of no particular importance. Its seriousness and its prevalence are clearly shown in a study published in a recent number of the *Epidemiological and Vital Statistics Report*¹

In many countries physicians are required to notify all cases they have attended however the percentage of cases notified is variable and sometimes amounts to only 3 / of the actual number. Statistics for recent years frequently show an increase but it is impossible to know whether this represents a real increase in the prevalence of whooping cough or an increase in the percentage of cases notified. From an analysis of American statistics for the period 1910-49 Gordon & Hood come to the conclusion that despite an increase in the number of deaths prevalence has remained practically unchanged.

Fig 5 shows the number of notifications of whooping cough in eight European and seven non European countries between 1941 and 1951. In general notifications have dropped in Canada Italy Switzerland and the USA while they have tended to increase in the other countries covered by the graph with the exception of Mexico.

Africa

There are apparent increases in the inter tropical region of the African continent (Angola Belgian Congo Cameroons under French administration French Equatorial Africa French West Africa Guinea and Senegal

obligation to notify the authorities of cases of the disease may be incumbent not only on physicians but also on persons responsible for hospitals, homes industrial enterprises, tuberculosis establishments, schools, hotels and inns directors of laboratories and radiological services, nursing staff, and parents or next of kin of the patient (e.g. in Costa Rica Lebanon New Zealand, Union of South Africa and the City of New York)

Considerable variation exists in the powers given, in recent laws to health authorities to carry out case finding examinations and to isolate infectious cases of tuberculosis when such cases represent a risk to others. With regard to examinations for detecting the disease particular efforts are made to protect children against possible infection examination of all persons who by reason of their functions, come into contact with children—school personnel for example—is required in Finland, France Norway, and Tunisia in certain cantons of Switzerland (Aargau Bern and Vaud), and in the City of New York. In Argentina and in Norway examinations are compulsory for those employed, or desirous of being employed in tuberculosis treatment establishments. Legislation empowering health authorities to isolate infectious cases of tuberculosis is in force in the Province of Ontario (Canada) Finland, Lebanon New Zealand, Norway South Australia, certain cantons of Switzerland, the Union of South Africa and several States of the USA.

Measures relative to BCG vaccination have recently been introduced into the legislation of several countries—Austria Finland, France, New Zealand Norway, and Yugoslavia. In some instances BCG vaccination is obligatory for certain categories of the population or for certain age groups, it is entirely voluntary in Austria and New Zealand. The legislation in some countries (e.g. Portugal) simply mentions BCG vaccination as a prophylactic measure.

New regulations regarding the construction installation and operation of establishments such as tuberculosis dispensaries sanatoria, preventoria etc. have been introduced into the legislation of several countries—e.g. Finland France and Tunisia. Provisions relative to occupational rehabilitation of tuberculous patients are included in the legislation of France and Italy. Among other legislative measures enacted in various localities are those which (1) forbid persons suffering from tuberculosis to carry out duties connected with the handling of food (2) permit isolation of children who are in danger of contracting tuberculosis in their homes (3) provide material aid for tuberculous persons and (4) restrict the use of streptomycin.

The prevention of bovine tuberculosis is the object of recent enactments in a number of countries. Legislation concerning the examination of herds and the measures to be taken with regard to them has been adopted in Chile Luxembourg Morocco and Switzerland. Regulations concerning the control of milk supplies have been enacted in Egypt Mexico Prince

and Togoland) In the Cameroons for instance 3 804 cases were registered in 1951 as against a total of 5 722 from 1945 to 1950 From January to May 1952 1 458 cases were notified which is the maximum reported for that period since 1945 There were more notifications (1 998 cases) in Senegal in 1951 than for any of the preceding six years in the Belgian Congo more cases were notified during that same year than during any of the 23 preceding years with the exception of three for which the figures are not known A total of 5 934 cases were registered in the Belgian Congo in 1951 as against 3 905 in 1950 and 2 609 in 1949 The 1951 figures for Angola have been exceeded only by those for 1943 during the past 25 years

America

According to the incomplete information available there was no serious epidemic of whooping cough on the American continent during 1951 save in Chile Guatemala and Peru In the USA following a considerable rise in 1950 the number of notifications for 1951 was the lowest since 1926 In Chile whooping cough was apparently more prevalent in 1951 than during most of the preceding 19 years with the exception of 1950 for which the figures are unknown between 17 June and 6 October 1951 there were 5 026 cases with 229 deaths In Guatemala notifications have increased every year since 1949 and in 1951 7 747 cases (543 deaths) were notified In Peru the number of cases was much the same during 1951 as during the years 1947 to 1949 at approximately 19 000 the number of deaths is high with over 6 000 in 1947 1948 and 1949 No recent epidemic has been reported from Mexico but the number of deaths attributed to whooping cough there has been approximately 11 000 per year for the period 1947 50

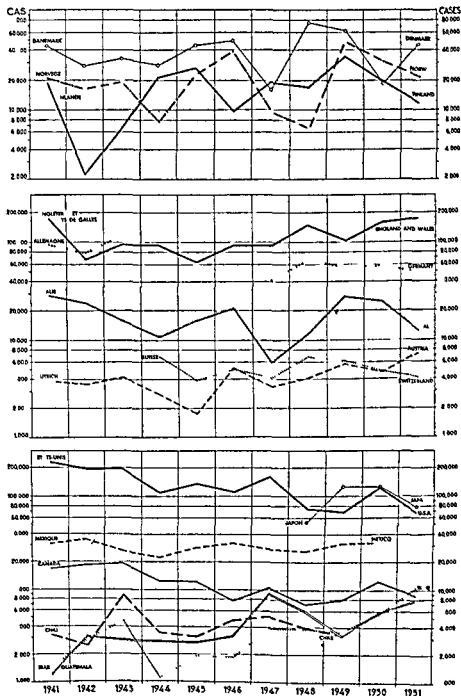
Asia

In Asia higher figures than for the preceding years were reported in 1951 in Cyprus Hong Kong Iraq and Manila There were 10 237 cases reported in Iraq in 1951 against 5 593 in 1950 this is the highest yearly figure since 1925 but the apparent mortality is very low In Japan on the other hand nearly 40 000 deaths were attributed to whooping cough between 1947 and 1950 Notifications there showed a marked drop in 1951 compared with the two preceding years when prevalence remained more or less stationary In Ceylon the 1950 prevalence was higher than during 18 of the 20 preceding years

Europe

Notifications in Europe were not numerous except in Austria England and Wales Iceland Malta Portugal and Yugoslavia In England and

FIG 5 WHOOPING COUGH CASES REPORTED IN VARIOUS COUNTRIES FROM 1941 TO 1951



Germany 1937 territory up to 1943 Federal Republic of Germany since 1947
 The above graphs have been established on the logarithmic scale in order to show the parallelism or divergence of the relative fluctuations in the prevalence of the disease in various countries. However the degree of reliability of the data on which these graphs are based is too varied to enable a comparison of prevalence between one country and another.

MEASLES ITS RECENT TREND

A study of the trend of measles in recent years has just been published in the *Epidemiological and Vital Statistics Report*¹. It is the first time that any attempt has been made to comment on morbidity tables for measles for the world as a whole and the author points out that the article should be considered as a simple introduction to the more thorough studies which will become possible in the future as the available data gradually improve.

Statistics on measles are indeed so far removed from the actual state of affairs that it is practically impossible to draw any conclusions from them as to the real prevalence of the disease. The relative proportion of cases notified by physicians varies considerably among countries and according to the circumstances frequently moreover the physician is not even called in. In certain countries no distinction is made in the morbidity tables between measles and rubella; in tropical countries it is not easy to distinguish measles in dark skinned persons from the other exanthematic diseases and the great majority of patients in these countries is never seen by a physician. Such as they are however these statistics are sufficient to show seasonal variations and changes in the prevalence of the disease from one year to another. This summary gives some of the more outstanding figures.

Africa

In Morocco (French Protectorate) the 6 433 notifications for the year 1950 and the 6 204 for 1951 exceed the figures for any of the 26 preceding years. In Algeria the notifications from November 1951 to May 1952 were more numerous than for the same period during most of the 25 preceding years. In Egypt more cases were observed in 1951 than during nine of the ten preceding years except 1949 when there were 11 312 notifications; in the Sudan 1951 was the most unfavourable year for four years. In Senegal and Guinea more cases were observed in 1951 than during the six preceding years except for 1947. On the Ivory Coast the figures for 1951 were higher than those for 1949 and 1950 and from January to July 1952 the number of notifications exceeded the totals for those same two years. In the Middle Congo (French Equatorial Africa) the number of registered cases from January to June 1952 (1 561) is markedly higher than the annual figure for 1951. In Spanish Guinea 1 350 cases were recorded in 1951 as against 45 in 1950. The number of notifications in Togoland under French administration has increased since 1946; in 1951 2 627 cases were recorded. In the Belgian Congo notifications for the

While the annual number of notifications rose from 102 816 in 1949, to 169 343 in 1951. In Austria the number (7,350 cases with 55 deaths) was higher in 1951 than during any of the 19 preceding years, with the exception of two concerning which there is no information. The 1951 epidemic in Iceland (2 932 cases) was the fifth important outbreak there in the past 28 years. In Portugal the epidemic of 1951 caused 372 deaths out of 4,644 cases. The number of notifications in Yugoslavia has increased since 1949, with 12 732 cases in 1951 against 10,483 in 1949-50. There was also an apparent increase in Italy during the first six months of 1952 when 12 014 cases were notified against 12 015 for the whole of 1951. In Northern Ireland also, 1952 seems to be an unfavourable year, up to 9 August 2 992 cases had been notified while, with the exception of 1949, the annual figures have not exceeded 2,599 cases since 1938. Finally, the number of cases notified in Denmark was two to three times higher in 1951 than in 1950 and from January to June 1952, the number of notifications (47 895) was higher than during the same months of the preceding 33 years with the exception of 1949.

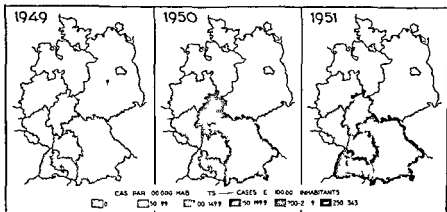
Oceania

Some more or less serious outbreaks attracted attention in a number of islands and archipelagos notably the Fiji Islands, French Oceania, Netherlands New Guinea, Papua, Samoa, and Tonga. In all, 1,355 cases were registered as against 389 in 1950. The epidemic continued until April 1952.

So far as the morbidity statistics for whooping cough can be trusted it would seem that the disease has been particularly prevalent in several countries during 1951 and at the beginning of 1952. In Denmark the number of notifications reached 67% of the number of cases reported in the USA, which has a population thirty six times greater, in the United Kingdom of Great Britain and Northern Ireland almost three times as many cases were reported as in the USA.

Whooping cough case fatality is high in certain countries and generally higher in rural areas than in towns. As has been noted above, it recently caused 40 000 deaths in three years in Japan and 11 000 deaths annually in Mexico. In Mauritius among a population of less than 500 000 it caused 1 748 deaths in 1948. Even in Europe the mortality is certainly not negligible. In 1949 1 134 deaths were attributed to whooping cough in France and 1,578 in Italy.

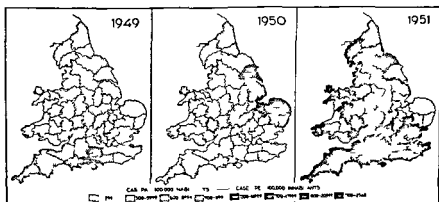
FIG 6 GEOGRAPHICAL DISTRIBUTION OF MEASLES IN GERMANY



40 229 cases in 1951 which represented a higher apparent morbidity than during any of the 32 preceding years except 1941. More cases were recorded in Spain in 1951 than during any of the seven preceding years. In Yugoslavia the 1951 figures almost equalled the total figures for the two years 1949 and 1950 with more deaths. The 1951 figures in Turkey exceeded those for any of the 27 preceding years. In the Republic of Ireland the number of cases recorded from the beginning of 1952 to mid August exceeded the annual figures for the ten preceding years. The prevalence of measles in Italy which had apparently decreased from 1949 to 1951 increased in 1952: the figures recorded from January to June exceed the annual figures for each of the two preceding years and for eight of the years 1939-49.

The countries in Europe most affected by measles during 1951 were England and Wales where the number of notifications exceeded those

FIG 7 GEOGRAPHICAL DISTRIBUTION OF MEASLES IN ENGLAND AND WALES



period January to August 1952 exceed the annual figures for any of the seven preceding years 7 421 cases were noted up to 17 August

America

In Canada and the USA the situation was favourable in 1951, but from January to mid August 1952 more cases were notified in the USA than for the corresponding period in any of the seven preceding years The figures for 1951 in Peru (8 533 recorded cases) were higher than in any year of the period 1945-9 In Uruguay, 1950 gave the maximum number of notifications for the period 1945-51 6 147 in 1950 against 1,441 in 1951 The only available statistics for Chile in 1951 cover the period from 17 June to 6 October they are higher than the figures registered for the corresponding period in most of the preceding 19 years During the first six months of 1951 25 714 cases were recorded in Mexico a higher figure than during any of the years 1945, 1947, 1948, and 1950 Mortality from measles is high in Mexico there were 6 924 deaths in 1948 and 18 318 in 1949

Asia

There was a very considerable increase in notifications in Israel in 1950 with 15 390 cases but this trend did not continue in 1951, when only 1,688 cases were recorded In Iraq 1951 was the most unfavourable of the past 28 years, with 2 495 notified cases but mortality was lower than might have been expected In Iran the notifications in 1950 and 1951 exceeded in number those of any of the preceding 18 years with the exception of 1935 In Afghanistan the figures doubled from 1949 to 1951 and the increase became even more marked during the first 23 weeks of 1952 Ceylon in 1950 reported more notifications than during any of the five preceding years In Japan the 1951 figures exceed those for any of the three preceding years the situation was better during the first seven months of 1952 Mortality due to measles in Japan is relatively high with 20 939 deaths in 1947 and 12 589 in 1949

Europe

In the Federal Republic of Germany (not including three "Länder" where measles is not notifiable) more cases were registered (56 676) than during any of the four preceding years As is shown in fig 6 the southern areas were more affected than the rest of the country In Switzerland 17 259 cases were recorded in 1951—almost as many as in 1949 and 1950 and more than during any of the five years 1944-8 France registered

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time but it must be emphasized that the opinions expressed are those of the Fellows.

Vocational Rehabilitation in the United Kingdom

Dr L. M. Farner, Medical Administrative Consultant, Division of Vocational Rehabilitation, State Board for Vocational Education, Seattle, Wash. USA, was granted a WHO fellowship to study vocational rehabilitation in the United Kingdom of Great Britain and Northern Ireland, Sweden, Germany, and Austria. His observations concerning vocational rehabilitation in the United Kingdom are summarized below.

Medical rehabilitation in the United Kingdom has been given particular attention since 1941 when a committee on rehabilitation and resettlement was appointed by the Government. This committee in its report concluded that

1. Satisfactory rehabilitation is achieved only when the handicapped person holds employment as a result of his merits as a worker in normal competition with his fellows.

2. With careful assessment of the individual capacity and proper job placement, the vast majority of vocationally handicapped persons can enter industry on normal terms.

3. A compulsory scheme should be developed requiring all substantial employers to employ a specified ratio of handicapped workers.

4. Sheltered workshops should be made available for those persons too seriously handicapped to compete in the labour market.

Disabled Persons Act

In 1944 there was passed a Disabled Persons Act designed to help the handicapped find suitable employment and to put into practice the principles suggested by the committee. For example, under the provisions of the Act, all employers are obliged to give employment to a number of registered disabled persons, this number to comprise not less than 3% of the total staff.

Disablement Resettlement Officers

Each employment office of the Ministry of Labour and National Service, of which there are more than 100, has one or more Disablement Resettlement Officers (D.R.O.) who help disabled men and women to find suitable employment. A disabled person is defined as one who is substantially handicapped in obtaining and/or holding a job.

for any year since 1940. Fig. 7 shows that the morbidity rate exceeded 600 cases per 100,000 inhabitants almost everywhere except in eight countries. Five countries even had a morbidity rate of over 2 000 cases per 100 000 inhabitants. The author observes:

In the English counties of Lancashire and Yorkshire alone where the inhabitants number 5 135 000 and 4 636 000 respectively there were 64 000 and 63 000 notifications of measles respectively in 1951 whereas in the Federal Republic of Germany (48 million inhabitants) and in France (42 million) the number of notifications did not exceed during the same year 57 000 and 41 000 respectively. In 1951 107 000 more cases of measles were recorded in England and Wales than in all the remaining nineteen European countries and territories for which data are available.

Oceania

A considerable increase in the number of notifications was observed in the following territories in 1951: Guam, Hawaii, New Caledonia, New Hebrides, French Oceania (with 1 638 cases from November 1950 to June 1951 against nil between January 1947 and October 1950), Solomon Islands and Papua (with 1 026 cases in 1951 against 12 in 1948 and a further increase in 1952 when there were 1 457 notifications from January to April only).

The prevalence of measles in the world does not seem to have become lower. Mortality from measles has been steadily decreasing in a number of European and American countries but it remains high in certain others. The number of deaths attributed to this disease in Japan and Mexico in 1949 is three and a half and five times more respectively than in fourteen European countries with a total of about 266 million inhabitants. Measles is thus far from being a danger which has been overcome, and it would be well to study its evolution in those countries where that evolution has been favourable.

Personal Observations

In addition to sketching the history and development of vocational rehabilitation efforts in the United Kingdom and outlining the *Government organization for aiding disabled persons to find suitable employment* Dr Farmer describes some of the places which he visited in his study tour. Among them were the following:

1 A rehabilitation centre (Talygarn, South Wales) operated by the Coal Board. Here physiotherapy, occupational therapy and recreation are provided for miners who have suffered fractures. Lumbering and mining operations are simulated in an effort to prepare the miner for his return to work.

2 The Austin Jr. car factory at Cardiff. This plant, a model one from the view points of health and working conditions, gives employment to about 65 victims of pneumoconiosis. Although the plant is not yet self supporting, the manager feels that this project can eventually be expanded to the point of building a large automobile factory in which *pneumoconiosis victims may work and which may be able to compete with similar industries employing non handicapped workers*.

3 The Industrial Rehabilitation Unit of Belmont Hospital near London. This particular unit is devoted to psychiatric rehabilitation and is staffed by five psychiatrists, two psycho-social workers, two psychologists, nurses, instructors and two D.R.O. Workshops provide means for vocational testing as well as occupational therapy. No analytical treatment is provided, but group therapeutic techniques such as psychodrama are employed with apparent success.

4 Papworth Village. Situated on a large estate, this village is a self-sufficient community for tuberculosis victims. There are approximately 2,000 residents, about 700 are bedridden, 500 live in hostels and the remainder are "settlers" who live in village-owned family unit houses. *The village operates large competitive industries concerned with printing and the manufacture of luggage, station wagon bodies for Austin cars, furniture, etc.* Hospital patients work in the industries from the time they can spend one or two hours a day until their health is so improved that they can be employed full time. Many men in the shops, former patients, have now been employed full time for 20 years or longer.

Notes and News

Environmental Sanitation Programme in Afghanistan

A large scale programme to improve sanitation and to provide pure water supplies has been undertaken by the Government of Afghanistan. The first objective will be to train nurses, midwives, medical students, teachers, malaria-control workers and others in principles of hygiene and sanitation. Standard designs for sanitary installations for urban and rural communities will be developed and suitable installations will be made in government and other public buildings.

At present, Kabul is the only city with a piped water supply and this serves only about one-quarter of the city's population. The first modern septic tank in the country was recently constructed.

but has reasonable prospects for employment after rehabilitation. The D R O classifies disabled persons as Class I (capable of competitive work) or Class II (capable of sheltered work only).

Among the duties of the D R O are to visit local hospitals in order to interview any patient likely to require a change of occupation as a result of disability. Sometimes conferences are held between the rehabilitation medical officer, the almoner (medical social worker) and the D R O to decide upon the best course for an individual patient. Upon the advice of such a group or of the D R O or physician alone, a disabled person in Class I may be sent to a vocational training or rehabilitation centre for "toughening up" before attempting to work in 8 hour day.

Industrial Rehabilitation Units

Under the Disabled Persons Act Industrial Rehabilitation Units (I R U) have been established. (1) to restore employment confidence by providing mental and physical toning up and an opportunity for gradual adjustment to working conditions through graduated exercise in the shops, gardens and gymnasia in order to return the vocationally handicapped to maximum working fitness in the shortest possible time and (2) to give those who must seek a different occupation guidance as to the most suitable kind of work to follow and to assist them in finding it. There were 15 such I R U in England as of July 1951 providing residential accommodations for about 250 men and non residential accommodations for more than 1 350 men and women. Each unit has a case load of approximately 100 disabled persons. Courses are arranged to meet the particular needs of each rehabilitee who is under close medical supervision during the six to twelve week period he is under the care of the I R U. A rehabilitation officer with special training guides and co-ordinates the work of a team consisting of a vocational guidance officer who gives aptitude tests etc., a trained social worker, a D R O who aids in placing those in need of such help, a supervisor of training, a doctor full time or part time and a qualified gymnast.

Entry into an I R U is open to anyone of 16 years or over whose medical treatment has recently been completed, who needs aid in physical and psychological adjustment to working conditions and who is recommended for an I R U course by a doctor. Others who are having difficulties in their work or appear to be on the verge of a breakdown or who have been unemployed for some time may also be admitted upon the advice of a D R O. Referral to the I R U is ideally by the D R O and only applicants who have reasonable prospects of becoming employed are accepted.

Between 1944 and June 1951 18 300 persons had completed courses at the various Industrial Rehabilitation Units. Six months after discharge 86% of those who had entered jobs were satisfactorily employed and 84% of those who had undertaken vocational training had completed their courses successfully.

Remploy plants

For Class II disabled persons sheltered workshops are provided in the form of "Remploy" plants. There are 70 or more such plants throughout the country employing about 4 000 workers but capable of employing 6 000. The work consists of light metal industries, knitting, bookbinding, engraving, brushmaking, repair of watches, clocks and typewriters and manufacture of baskets and of products of wood, leather, canvas etc. Remploy plants are permitted to employ approximately 15% of non-handicapped persons. After working in such a plant for a time some workers regain confidence and go to more lucrative jobs in competitive industry.

Publication of International Pharmacopoeia Lauded

At its Centennial Convention held in August 1952 the American Pharmaceutical Association passed a resolution manifesting its interest in the International Pharmacopoeia. Publication of Volume I of the *Pharmacopoea Internationalis* was cited as the culmination of the first successful international pharmacopoeial co-operation to provide practicable standards for the important drugs of the medical armamentarium and the Association extended warm wishes for the continued progress of this effort.

World Health Day

April 7, 1953 will mark the fifth annual observance of World Health Day. The suggested theme for this observance is the economic value of health ("Health is wealth"). Member Governments have been informed that publicity material on this subject will soon be available so that plans for celebrations may be made well in advance.

Assistance in planning the environmental sanitation programme and in executing the first steps has been given by a WHO sanitary engineer Mr J N Lanoix (Haiti) who has completed a two year assignment in Afghanistan. WHO aid will be continued and another sanitary engineer will be appointed within the next few months.

New WHO Posts Created in South East Asia

The WHO Regional Office for South East Asia has assigned Area Representatives¹ to several capitals in the Region in a move to facilitate the co ordination of international health assistance. The Area Representatives will aid national health services in integrating such assistance and in planning the development or expansion of WHO projects. Three appointments have been made (as of October 1952). Dr R L Tuli (India) who has been one of the regional public health advisers since 1949 has been assigned to Ceylon. Dr O Veenbaas (Netherlands) Adviser General to the Ministry of Health of the Republic of Indonesia before joining WHO as an adviser in 1951 has gone to Burma and Dr N K Jungalwalla (India) previously one of the specialist advisers at the Regional Office has assumed the post in Indonesia.

Venereal Disease and Health Education Project in Cairo

A WHO trained team of Egyptians conducted in October a three week health education and syphilis control project in a district of Cairo inhabited largely by people of low income. A preliminary social study was made by a local institute for social work. Health education stressing venereal disease was the main object of the project in which 2 000 persons were subjected to serological tests. Particular attention was given to children and to pregnant women and infected cases and their contacts received penicillin treatment. *The Egyptian team which carried out this project was the same as that associated with the successful Edfa project¹*

Public Health Adviser Appointed for Ethiopia

Dr J W Tesch who has been granted one year's leave of absence from his post as Chief of the Department of Infectious Diseases of the Health Service of Rotterdam the Netherlands has been sent to Ethiopia as WHO public health adviser at the request of the Ethiopian Government. He will advise the Ministry of Health on matters relative to strengthening the health services of the country and will co ordinate WHO activities which include projects in the control of venereal disease tuberculosis and leprosy.

Health Projects for Syria

With international assistance Syria has embarked on a modern health programme which is to include improvement of maternal and child health services and efforts to control tuberculosis malaria bilharziasis and favus. In November a WHO aided tuberculosis demonstration centre which occupies more than twenty rooms of a new hospital was opened. In December a similarly aided maternal and child health centre is to open in a new building in Damascus. Plans have been made for campaigns against malaria and bilharziasis. A new nursing school which is being erected by the Government will be partially staffed by WHO instructors. One of the most important projects envisaged is a campaign against favus which affects as many as 40 000 children between the ages of 5 and 15 years. WHO and UNICEF have agreed to support this project.

¹ See page 355

SUBJECT AND NAME INDEX

- Addiction producing drugs 69 71
 Aden BCG vaccination campaign in 281
 Afghanistan
 environmental sanitation programme in 369 370
 typhus control in 351 355
 AFTH M 281
 Africa
 bilharziasis survey in 295
 diphtheria among indigenous populations of 156-157
 kwashiorkor survey in 61 65
 Regional Committee for—
 first session 293
 second session 292 296
 Regional Office for 292
 Director of appointed 52
 yellow fever in delineation of endemic areas 338 339
 AGUILAR A 244 262
 AHUJA M L 322
 ALAN T 246
 Alcoholism 71 76
 European seminar on 31 33
 Subcommittee on *see* Expert Subcommittee
 ALIVISATOS G 244 262
 ALLWOOD PAREDES J 262
 ALMEIDA E CASTRO A G DE 243
 ALSTED G 249
 AL WAHBI S 245
 AMADOR GUEVARA J 98
 Americas
 insecticide supplies in 13
 International Sanitary Regulations application in 13
 programmes in 11 12
 Regional Committee for fifth session 11 12
 Regional Office for 11
 Assistant Director of 27 336
 yellow fever in delineation of endemic areas 338 339
 ANDERSEN E W 53 138
 ANDERSEN O 243 262
 ANDERSON R E 43
 ANELZI A N 247
 Anglo-Egyptian Sudan cerebrospinal meningitis control in 109 282
 Annual Report of the Director General to the World Health Assembly and to the United Nations 1951 115 132 169 170 283
 Anopheles
 fluvialis 109
 gambiae biology of 273
 maculipennis control experiment in Iran 17
 minimus 140-141
 Antituberculosis League Istanbul 135 138
 Antituberculosis Training and Demonstration Centre Istanbul 135 139
 Anti Venereal Disease Commission of the Rhine *see* International
 Antivenin standardization problems 157 158
 ASCH VAN WIJCK W H J VAN 245
 ASHWIN C 135 137
 Associate Members of WHO
 Morocco 178 267
 Southern Rhodesia 110 262
 status of 260 262
 Tunisia 110 178 262
 ATZENWILER L 248
 AUDIN H 312 313
 Audiology and rehabilitation of deaf and dumb children 159 160
 AUJALEU E J 241 244 343
 AUNG SAN MRS (DAW KHIIN KYI) 243
 AUTRET M 61 62 65
 AYKROYD W R 248
 AZOUZ 247
 BA MAUNG 243
 BACCIALONE L 245
 BAMATTER F 249
 Bank for Reconstruction and Development *see* International Bank
 BANKS A L 343
 BARNES S W 83
 BATES W E 258
 BAUER L H 249
 BCG
 see also Tuberculosis
 Research Office Copenhagen
 vaccination—
 legislation on 358

PHARMACOPOEA INTERNATIONALIS

FIRST EDITION

Volume I

THE *Pharmacopoea Internationalis*—the first international pharmacopoeia—volume I of which appears now in English and French and will shortly be available in Spanish also is a work of historic importance produced with a view to fulfilling the desire long felt by pharmacists and physicians throughout the world for the establishment of internationally recognized standards and nomenclature for pharmaceutical preparations in universal use.

The compilation of this work was begun in 1937 under the auspices of the League of Nations Health Organization but owing to the difficulties of wartime little progress was made until 1947 when the Interim Commission of the World Health Organization set up the WHO Expert Committee on the Unification of Pharmacopoeias. This committee has worked unceasingly since its establishment and in addition to the first volume has already prepared much of the material to be included in the second volume.

The *Pharmacopoea Internationalis* is similar in form to the present-day national pharmacopoeias. Volume I consists principally of 199 monographs giving specifications for various drugs and preparations including antitoxic sera and some of the newer antimicrobials such as Proguanil Hydrochloride. There are 43 appendices giving particulars of the reagents and test solutions, solutions used for volumetric analysis, weights and measures, international atomic weights, and usual and maximal doses for adults of drugs included in volume I and describing methods for assaying and determining the potency of certain of the substances mentioned in the monographs. The volume also contains general instructions and explanations of terms used and a note on patents and trademarks.

The *Pharmacopoea Internationalis* (Ph. I.) should be particularly useful to countries which have not yet developed a national pharmacopoeia as well as to those countries whose national pharmacopoeias need revision to bring them up to date. It is hoped that the health and pharmacopoeial authorities of the former countries will decide to adopt the book as a whole as their official pharmacopoeia. A supplement could be prepared by the country concerned so as to complete the Ph. I. according to national requirements. In such cases arrangements could be made for any of the editions to be supplied in large quantities at special low rates.

To all concerned with the prescribing and dispensing of pharmaceutical preparations the *Pharmacopoea Internationalis* will be of immense interest. Laying down as it does international standards for drugs, this work will undoubtedly help to promote and protect the health of all peoples.

VIII + 406 pages price 35/ £5.00 Sw fr 20.—

Orders should be sent to the booksellers listed on the back cover or direct to World Health Organization Sales Section, Palais des Nations, Geneva, Switzerland.

- Cases of and Deaths from Notifiable Diseases* 274
- CATTABENI M 245
- CAVALLI L L 301
- CCICMS 300
- CCTA FAO/WHO Nutrition Conference 294
- Centre for Classification of Diseases 35
- Cerebrospinal meningitis
control in Anglo-Egyptian Sudan 109 282
world distribution and trend of 19 23
- Certification of cause of death 35-40
- Ceylon medical teaching mission to 3 52 53
- CHAIN E B 301
- CHARLES SIR J 187 247
- CHAWKAY CHATTY A 246
- CHERRY R L 244
- Child psychiatry in the USA 312 313
- Children
deaf and-dumb rehabilitation of 159 160
physically handicapped rehabilitation of 329 331
- Chile 336
- China BCG vaccination programme in 83
- CHISHOLM G BROCK 27 179
- Cholera 143 146
Expert Committee on *see* Expert Committee
Joint OIHP/WHO Study Group on *see* Joint OIHP/WHO Study Group
vaccination certificates for 287 290
- CHOWDHURY S A 246
- Chronicle of the World Health Organization* 89
- CHUN J W H 77 78
- CITTERIO COMTE G 247
- CLARK B M 246
- CLARK R N 241
- CLAVERO G 246
- Codepid* 173
- CORN E J 336
- COLLIER W A 106
- COMBEMALE P 9
- Commission for Technical Co-operation in Africa South of the Sahara *see* CCTA
- Committee on International Quarantine 173 260
see also Expert Committee on International Epidemiology and Quarantine
International Sanitary Regulations
- Conventions international sanitary *see* International Sanitary
- Cost of sickness and the price of health The* 182 203
- CORNIAZ M L 249
- CORNET F 135
- Council for the Co-ordination of International Congresses of Medical Sciences *see* CCICMS
- COVELL SIR G 280 316
- CRAMAROSSA S 245
- CRAMER A 249
- CRUICKSHANK E W H 53
- CRUZ F 43
- CUTLER J C 98
- DAENGSVANG S 43 185 246 262 326
- DAIMER J 243
- DAIRÉ J 247
- DAKSHINA MURTY S 280
- DALGAMOUNI M A K 54
- DAUBENTON F 52 293 296
- DAUSSET F 249
- DAVIDOFF L M 6
- DAVIDSON SIR A 110 247
- DAVIES M G 16
- DDT
see also Insecticides Malaria Typhus
factory—
Ceylon 327
India 315 327
- Deaf and-dumb children rehabilitation of 159 160
- Death(s)
causes of and vital statistics on 274 276
certification of 35 38
from cancer 276-278
from notifiable diseases 274
- DE LEONI U 245
- Denmark 31 87 88 245
- DE VERE GREEN C 249
- DELMOTTE J 43
- DENOËL J A 243
- DEPRUN J E 244
- DEUTSCHMAN Z 15
- DHAMENDRA 314
- DIBA A 244
- Diphtheria
among indigenous populations in Africa 156-157
world incidence of 303 307
- Director General's annual report *see* *Annual Report of the Director General*
- Disulfiram therapy in alcoholism 75
- DOWNES H E 243
- DRAGSTED J 158
- DROST M A 27

- BCG (*continued*)
 vaccination (*continued*)
 programme(s) in—
 Aden 281
 China 83
 Egypt 27
 India 83
 Philippines 83 84
 Sarawak 281
 vaccine—
 effect of daylight and sunlight on
 158 159 256
 production centre Cairo 27 281
 standardization of 104 106
 studies on 254-259
- BEG M I 246
- BEGG N D 52
- BEITH J 247
- Bejel
 control in Iraq 14
 treponeme studies on 290-292
- BELLERIVE A 168 244
- BERG C VAN DEN 245 262 343
- BERKELEY C M 248
- BERNARD E 249
- BERNARD L 244
- BERNARD LÉON 181 182, 183
- BERTHET E 135
- BEYHUM M 245
- BHALLA J J 302
- BIATIA M 108
- BICKERT R 245
- BIEMOND M 244
- BIGGS H M 183 191
- Bilharziasis 131
 survey in Africa 295
- Biological standardization 264 265
 Expert Committee on *see* Expert Com-
 mittee
- BIRKHAUG K 104
- BLAINLEY R M 247
- BLAISDELL, D C 247
- BLANC, P 322
- BLONDEEL, F 243
- Blood Group Reference Laboratory *see*
 Medical Research Council London
- Blood transfusion services in the USA
 334-336
- BOERI E 245
- BOIDÉ D 186 244
- BONA DE SANTOS 84
- BONNE W 43
- BORDER L H 243
- BOSSMANS F A E 243
- BOSQUET F 243
- BOUCHER W H 247
- BOUVIER C L 249
- BOZZO A 106
- BRADY F J 247
- BRADY T J 245
- BRAVO A L 248 262
- BRIDGES D C 249
- BRIDGMAN R F 244
- BROADLEY SIR H 167 248
- BROCK J F 61 65
- BRODAREC, I 247
- BRUCE CHIWATT L J 280
- Brucellosis 131
 FAO/WHO centres 126 131
- Brussels Agreements for the Unification of
 the Formulae of Potent Drugs, 323
 termination of 76 278
- BRUSGAARD A 315
- BUCHANAN SIR G 283
- BUCHEM F S P VAN 53
Bulletin of the World Health Organization 89
- BURCKHARDT W 249
- BURGER G C E 245
- Burma
 leprosy adviser appointed to 314 315
 malaria control in 53 54
 medical teaching mission to 3 52 53
- BURTON J 249
- BUSK T 258
- BUSTAMANTE M E 11
- BUTTERWORTH T H 241
- CAJALIO-PÉREZ, M 247
- CALDERWOOD H B 247
- CALIFANO L 301
- CALLEA S 245
- CALPINI P 246
- CALSEYDE P J J VAN DE 243 278
- CALVO SUCRE A E 246
- CAMBURNAC F J C 246 280 293 296
- CANICI L 301
- CANAPERIA G A 245 260 262
- Cancer
 mortality from 276-278
 registration of cases and statistical pre-
 sentation Subcommittee on *see* Expert
 Subcommittee
- CANDAU M G 1 27 336
- CANNIÈRE P J DE 249
- CARR C J 282
- CARRIÈRE, M 334 335
- CARVALHO-DIAS A A DE 246
- CASBERG M A 247

- Expert Committee on International Epidemiology and Quarantine 154
see also Committee on International Quarantine International Sanitary Regulations
- Expert Committee on the International Pharmacopoeia
see also Expert Committee on the Unification of Pharmacopoeias *Pharmacopoea Internationalis*
 ninth report 76-77 88
 non proprietary names subcommittee of 77 88 260 325
 tenth session 260
- Expert Committee on Leprosy 175
- Expert Committee on Maternity Care first report 66-68 88
- Expert Committee on Mental Health 33
 67 71 88 177
 alcoholism subcommittee of 32 33 71 76 88
- Expert Committee on Nursing second report 88 98 100
- Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel 103
- Expert Committee on Public Health Administration 193 195 197
 first report 88 146-150
- Expert Committee on Rabies 177
- Expert Committee on Trachoma first report 260 297 300
- Expert Committee on Tuberculosis fourth session 135
- Expert Committee on the Unification of Pharmacopoeias 323 324
see also Expert Committee on the International Pharmacopoeia *Pharmacopoea Internationalis*
- Expert Committee on Venereal Infections and Treponematoses 90
- Expert Subcommittee on Alcoholism 32 33
 second report 71 76 88
- Expert Subcommittee on Non Proprietary Names 325
 fourth session 260
 third report, 77 88
- Expert Subcommittee on the Registration of Cases of Cancer as well as Their Statistical Presentation second report, 153
- FARE J 79
- FAHRI AREL, 138
- FANCONI G 249
- FAO 11 28 40 61 65 116 121 122, 126 127 166 167 168 183 196 218 261 294 319 328
- FARAJ A 247
- FARNER L M 367 369
- FAUCON E 249
- Fellows reports from 24 25 50-52 159 160 312 313 334-336 367 369
- Fellowships
 programme 59 61 261
 Africa 295 296
 Finland 109
 South East Asia 328
- FERBER S H 259
- FERRERA M J 180 219 241 243 262
- FERRIERE F 243
- Filariasis 132
 Expert Committee on *see* Expert Committee
- FINDLAY G M 282
- FINDLAY L 248
- Finland 109
- FINLAY C J 14
- FLORRY M 53
- FOESEL J 244
- Food and Agriculture Organization of the United Nations *see* FAO
- FORD V 98
- Formosa *see* Taiwan
- FOSTER G 241 247
- FRANDSEN J 243
- FRANKENSTEIN L 249
- FREYCHE M J 15 19 306 307
- FRIS E 281
- FULTON J T 148
- GALBUSERA A 247
- GARCIN G R 244
- GARNHAM P C C 316
- GARRETT JONES C 17
- GARZA BRITO A DE LA 245
- GAUD M 244
- GEERAERTS L A D 243
- GESER A 83
- GHACHEM M 247
- GHEZZI MORGALANTI P 245
- GILBERT M 248
- GIRARD G 78
- GIROUD P 15 16
- GOETZSCHE I 337
- GOLZIO S 245
- GOODMAN N M 278 279
- GORDON J E 6 53 124 340
- GRASSET E 156 246

Drug(s)

- see also Expert Committee on Drugs
- Liable to Produce Addiction Expert Committee on Habit Forming Drugs
- Expert Committee on the International Pharmacopoeia *Pharmacopoea Internationalis*
- addiction 69 71
- Brussels Agreements for the Unification of the Formulae of Potent see Brussels Agreements
- non proprietary names for 322 326
- Expert Subcommittee on see Expert Subcommittee
- Du Bois C 83
- Dunham E C 18
- Duren A N 243
- Duthie J J R 24 25
- Dutta S N 144

Eastern Mediterranean

- inter regional rabies conference 319 322
- programmes in 337 338
- Regional Office for 109 282
- tuberculosis centre for 315 316

Economic Co operation Administration (ECA) 108 126

Economic survey of Europe in 1951 210

Ecuador health education programme in 54

Edwards L B 158

Edwards P Q 155

Education of medical personnel see Medical education

Egypt 338

- BCG vaccination programme in 27
- BCG vaccine production centre 27 281
- health education programme in 355 357 370
- occupational health survey in 315
- seminar on health and human relations 109
- tuberculosis centre 315 316
- venereal disease control in 281 370

El Ghouroury A A 338

Eliassen R 247

Elcano T 246

El Mehlmy Y K 244

El Zahawi S 245

Engler G 246

Ennals J A F 249

Environmental sanitation 119 121

- Expert Committee on see Expert Committee
- in European countries 50 52

Environmental sanitation (*continued*) programmes—

- Afghanistan 369 370
- Africa 294 296
- seminar for European sanitary engineers, 40 42
- services and personnel 101 104
- Equatorial Africa
- Malaria Conference in 280
- rickettsioses in 15 16
- Eric Y O Shea J S de 246
- Espinoza E 246
- Ethiopia
- leprosy adviser appointed to 54
- public health adviser appointed to 370
- venereal disease control in 282

Europe

- environmental sanitation in 50-52
- Regional Office for 31 40
- Director of appointed 52
- seminar on alcoholism 31 33
- seminar for sanitary engineers 40 42
- Evans K 6 183 193 241 246 340
- Executive Board 76 343
- eighth session 170
- ninth session 52 87 89 170
- tenth session 88 260-263 279
- membership 262 263

Expert Committee on Biological Standardization 146

fifth report 88 264 265

Expert Committee on Cholera 177

- see also Joint OIHP/WHO Study Group on Cholera
- first report 88 143 146

Expert Committee on Drugs Liable to Produce Addiction

- see also Expert Committee on Habit Forming Drugs
- third report 69 71 88

Expert Committee on Environmental Sanitation

second report 88 101 104

Expert Committee on Filariasis 175

Expert Committee on Habit Forming Drugs 323

- see also Expert Committee on Drugs Liable to Produce Addiction

Expert Committee on Health Statistics

cancer subcommittee of 153

third report 88 150 153

Expert Committee on Insecticides

fourth report 88

third report 88 263 264

- International Health Conference 1946
 Technical Preparatory Committee 154
International health organizations and their work 278 279
- International Labour Conference thirty fifth session 343
- International Labour Organisation *see* ILO
- International Maritime Venereal Disease Control Centre Rotterdam 53
- International Monetary Fund 218
- International non proprietary names for drugs 322 326
- International Pharmaceutical Federation 323
- International pharmacopoeia *see* *Pharmacopoea Internationalis*
 Expert Committee on *see* Expert Committee
- International Research Centre for Chemical Microbiology 300
- International Salmonella Centre 87
- International Sanitary Conventions 54 115 154 287 290
- International Sanitary Regulations 54 110 115 153 155 170 171 172 173 337
see also Committee on International Quarantine Expert Committee on International Epidemiology and Quarantine
 application of in the Americas 13
- International standard for sulfarsphenamine third 16 17
- International Statistical Institute 48
- International Symposium on Chemical Microbiology 300 301
- International Symposium on Yaws Control 26 253 254
 programme 42-43
- International Treponematoses Laboratory Center 126 130 290 292
- International Tuberculosis Campaign 255 256 281
see also Joint Enterprise
- International Union of Chemistry 55
- International Union for the Protection of Industrial Property 323 326
- Iran*
A. maculipennis control experiment in 17
 industrial health survey in 282
 medical teaching mission to 3 9
 nutrition survey in 84
 public health adviser to 27
 rabies control in training course 28
- Iraq*
 agreements with WHO 279 280
 bejel/syphilis control in 14
 malaria control in 280
- Israel*
 medical teaching mission to 3 6-9 340
Pharmacopoea Internationalis adopted as national pharmacopoeia by 339
- ISSARI P C 38 39
- Istituto Superiore di Sanità Italy 300
- Italy 40
- IVERSEN T O 741
- JABI M W 246
- JACCARD R 749
- JAFAR M 241 246 260 63
- JANZON A 246
- JELLINEF E M 73
- JENTZER A 249
- Johns Hopkins University Md USA 290
- JOHNSON H N 320 322
- JOHNSON M J 301
- Joint Enterprise 27 83 127 158
see also International Tuberculosis Campaign
- Joint Expert Committee on the Physically Handicapped Child first report 60 329 331
- Joint FAO/WHO Expert Committee on Nutrition 44 61 261
- Joint OHP/WHO Study Group on Cholera 144 145
- JOSEPH A J 243
- JOSEPH E 4
- JUNGALWALLA N K 43 310
- KAHANY M 245
- KAMEL M 54
- KAPLAN M M 344
- KARABUDA N 746
- KARUNARATNE W A 243 248 326 328
- KEENEY S M 43
- KERCHOVE D EXAERDE BARON F DE 243
- KEYS A B 44
- KHADDOURI Y 241 245
- KHANACHET S 246
- KHAUM A 243
- KHLOU KIMSENG 243
- KILLION E J 247
- KINGSLEY J D 279
- KITCHEN D K 42
- KIVITS M 293
- KLEMPERER P 6
- KLOSE F 244

GRAVES MORRIS W M 247
GREGORIĆ P 185 247
GREUL E 244
GRUT A 248
GRZIGORZEWSKI E 6 9 53 340
GUIMARÃES F N 43

Habit forming drugs

see also Drug Addiction Expert Committee on Drugs Liable to Produce Addiction

definition of 69

Expert Committee on *see* Expert Committee

HACKETT C J 43

HADJI VASSILIOU N 244

HAGEN O 281

Haiti 53

HAKIMI A R 243

HALIM M A A 14

HAMILTON A M 246

HANTCHEF Z S 249

HASSELMANN C M 42 43

HAYEK S 245 260 263

Health education 122 123

programmes—

Ecuador 54

Egypt 355 357 370

Health statistics 150 153

see also Statistics

Expert Committee on *see* Expert Committee

Inter American Center *see* Inter American

Western Pacific regional seminar on 314

HEMMES G D 245

HENDERSON J S 247

HENNESSEY I 248

HENTSCH Y 249

HERMANS E H 53

HESSLING H C 245

HEYMANS C 9

HILL K R 42 43

HINSHELWOOD C N 301

Histoplasmosis and histoplasmin sensitivity
geographical distribution of 155 156

HÖJER J A 246 315 343

HOLSTEIN M H 273 280 316

HORA S L 145

HORWOOD M P 50

HOSHI B 245

HOVEYDA A A 248

HUGGINS D R 43

HURST F 247

HUSFELDT E 53 138 139

HUSSELS K 244

HYDE H, 247

HYLANDER F B 244

IBRAHIM M 245

ILO 121 218 260 282 315 329 343

Convention on Minimum Standards
Social Security 88 343

India

BCG vaccination programme in 83

Central Research Institute Kasauli 1

DDT factory 315 327

malaria control in 38-40 108 109

Medical College Trivandrum aid to 3

medical teaching mission to 52 53

penicillin factory 327

population control in pilot study on 33

School of Tropical Medicine Calcutta 1

venereal disease control in 90 98 266 2

Indian Council of Medical Research Cholera
Advisory Committee 143

Indonesia nutrition programme in 27

Industrial health survey in Iran 282

Influenza

B viruses antigenic composition of 1
incidence in 1951 2 337

world centre *see* World Influenza Cent

Inoculation international certificates for
287 290

Insecticides

see also DDT

dispersing equipment 263 264

Expert Committee on *see* Expert Committee

Instituto de Medicina Tropical Lisboa
279 280

Inter American Center of Biostatistics
336 337

Inter American Congress of Public Health
First 14

Interim Commission 3 154 287 288 3

International Anti Venereal Disease Commission
of the Rhine 53

International Bank for Reconstruction and
Development 116 218

International Certificates of Vaccination
287 290

International Children's Centre 295

International Convention for the Protection
of Industrial Property 326

International Digest of Health Legislation 8

International Form of Medical Certification
of Death 35 38

- Maternity care 66-68
see also Maternal and child health
 Expert Committee on *see* Expert Committee
- MAURER G 248
- MAYSTRE J 249
- Meat hygiene consultant on mission 28
- Measles world incidence of 363 366
- Medical education
see also Fellowships Professional and technical education Seminar Symposium
 teaching and training programmes 124-125 328
 teaching missions 3 10 52
 world conference on 88
- Medical Officer 110 283
- Medical Research Council London 227
 Blood Group Reference Laboratory assistance to 88
- MELBYE F 246
- MELLS F A 247
- Membership of WHO 116 178 179
- Mental health 121
 Expert Committee on *see* Expert Committee
- MENZIES G 248
- METSelaar D 245
- Mexico nursing education project in 83
- MEYER E 139
- MEYER S N 259
- Microbial growth and its inhibition *see* International Symposium on Chemical Microbiology
- MIGLIORI G 245
- MILES A A 16 301
- MILLER L C 247 248
- MILOŠEVIĆ O 247
- Minimum standards of social security 343
- MIRIMANOFF A 249
- MOCHI A 135 136 155
- MOE G K 6
- MOL C J M 245
- MOLITOR L 245
- MONOD J 301
- MOORE G H 243
- MORA C F 244
- MORGAN M T 247
- Morocco admitted to associate membership 178
- MORRIS E 84
- MORRIS L E 6
- Mortality
 causes of statistics on 274-276
 from cancer 276-278
- MUDALIAR SIR A 168 185 244
- MUTR E 249
- MULLER ROJAS O 247
- MURRAY L H 79
- MUSIL E 249
- MYRDAL G 161 166 180 203 205 248
- NAGUI BEY I H 281
- NASRALLAH S 244
- NATHI D P 244
- National Institute for Medical Research London 174 265
- NATWICK M L 249
- NAZIF BEY M 241 244
- NEDYAM RAGHAVAN 2-4
- Netherlands 53
- NETTER R 292
- NEUBAUER R 247
- New and Nonofficial Remedies 324
- New York State Department of Health Division of Tuberculosis Control 105
- NGUYEN VAN NGUYEN 247
- NGUYEN VAN TRAN 247
- NICHOLLS L 145
- NICOLAS G 244
- Nigeria malariaology course in 280 295
- NOACH P 186 245
- Non proprietary names for drugs 322 326
 Expert Subcommittee on *see* Expert Subcommittee
- Norway 88
- Nursing 98 100 123
 education—
 project in Mexico 83
 working conference on 82 83
 Expert Committee on *see* Expert Committee
 programmes in South East Asia 327
 school East Pakistan 337
- Nutrition
see also Kwashiorkor
 CCTA/FAO/WHO conference on 294
 Joint FAO/WHO Expert Committee on *see* Joint FAO/WHO Expert Committee
 malnutrition prevention and treatment of severe in times of disaster 44-46
 programmes in—
 Africa 294 296

- KNIGHT B C J G 301
 KNUTSON D 246
 KODIJAT R 43
 KOMAROV A 322
 KONO S 245
 KOO YOUNG SOOK 245
 KOPROWSKI H 321 322
 Korea
 health survey in 279
 United Nations Reconstruction Agency
 see UNKRA
 KRISHNAN K V 144
 KVVITTINGEN J 98 302
 Kwashiorkor survey in Africa 61 65

 LACHANCE F 280
 LACHARRIÈRE R DE 244
 LAMI G 247
 LAMPE P H J 314
 LANOIX J N 370
 Laos Kingdom of 179
 LARSEN H L 27
 LARSON L W 247
 LARSSON A 246
 LAURETTI G 245
 LAZARTE C 246
 League of Nations 323
 Health Committee of 181
 Health Organization of 218 279 283
 Malaria Commission of 280
 LEAHY K M 83
 Lebanon maternal and child health pro-
 gramme in 84
 Legislation
 International Digest of Health *see*
 International Digest
 on tuberculosis 357 359
 LEMENA J 326
 Léon Bernard Foundation Prize 181 183
 LÉPINE P 322
 Leprosy 131
 adviser appointed to—
 Burma 314 315
 Ethiopia 54
 Expert Committee on *see* Expert Com-
 mittee
 world incidence of 308 311
 LEROUX O 241 243 263
 LETHBRIDGE A 248
 LEVINE S Z 6 8
 LEVITAN S 42
 LEWIS L 282
 Liberia 293
 LIFSCHITZ B 247

 LINDER A 248
 LISSAC A 244
 Living standards United Nations Economic
 and Social Council report on 347 351
 LWOFF A 301

 MACCHARLES M R 53
 MACCHIAVELLO A 109
 MACCORMACK J D 245
 MCCULLOUGH J C 98 302
 McDougall, J B 315
 McGAVRAN E G 241 247
 MACKENZIE M 247 263
 MACINTOSH J M 180 241
 McMILLAN W H 243
 MAISIN J 316
 Malaria 126 127
 Conference in Equatorial Africa 280
 control in—
 Africa 294 295 296
 Burma 53 54
 India 38-40
 Philippines 108
 Sarawak 280-281
 Taiwan 280
 Thailand 140 141
 courses 280
 Malaria Institute of Aguas de Moura
 Lisbon 280
 Malariology courses 280
 MALTARELLO A 245
 MA MOEN AL RASHID KOESOEMADILAGA 244
 MANI C 328
 MANNING R E 248
Manual of the International Statistical
 Classification of Diseases Injuries and
 Causes of Death 173
Manual on plague 77 78
 MANUWA S L A 293
 MARA L 108
 Maritime Venereal Disease Control Centre
 Rotterdam *see* International Maritime
 MARQUES J F 282
 MARTI R 249
 MASPÉTIOL R 159 160
 MASSAL, E 43
 Maternal and child health 117 118
 see also Maternity care Nursing
 programme(s)—
 Lebanon 84
 Pakistan 141 143
 South East Asia 327
 Taiwan 314

- Professional and technical education of medical and auxiliary personnel 261 262
see also Fellowships Medical education
 Seminar Symposium
 Expert Committee on *see* Expert Committee
- Psychiatry child in the USA 312 313
- Publications programme of WHO 89
- Public health
 administration 116-117 146-150
 Expert Committee on *see* Expert Committee
 adviser appointed for
 Ethiopia 370
 Iran 27
 Inter American Congress of 14
 PUNTONI V 245
- Q fever 131
- Quarantine Committee on International
see Committee on
see also Expert Committee on International Epidemiology and Quarantine
 International Sanitary Regulations
- Quarterly Review of Biology* 282
- Rabies 131
 consultant on mission 28
 control—
 programmes in Africa 295
 training course Iran 28
 Expert Committee on *see* Expert Committee
 inter regional conference on 319 322
- RADI ABU SEIF RADI BEY 109
- RAE A M W 247
- RAFFAELE G 316
- RAJAM R V 42
- RAMCHANDANI C V 244
- RAO R 248
- RAY J F 248
- READ J M 248
- Recent advances in chemotherapy* 282
- REDEKER F 244
- REES J R 249
- REGALA A 246
- Regional Committee for
 Africa—
 first session 293
 second session 292 296
 Americas fifth session 11 14
 South East Asia fifth session 326-328
 Regional Office for
 Africa 116 292
 appointment of Director 52
- Regional Office for (*continued*)
 Americas 11
 Assistant Director of 27 336
 Eastern Mediterranean 109 282
 Europe 31 40 116
 appointment of Director 52
 South East Asia, 143
 Area Representatives of 370
 Western Pacific 115
 Regionalization 260 261 262
 REGNA P P 301
 Regulations International Sanitary *see*
 International Sanitary
- Rehabilitation
 and vocational services in the United Kingdom of Great Britain and Northern Ireland 367 369
 of deaf and dumb children 159 160
 of the physically handicapped (child) 329 331
 Joint Expert Committee on *see* Joint Expert Committee
 Technical Working Party on 329
- REIN C R 42 43 253
- Retrolental fibroplasia in premature infants 18 19
- REYNOLDS F W 43
- Rheumatic diseases in the USA 24-25
- Rickettsioses in Equatorial Africa 15 16
- RIGLER L C 6
- RIVET J R 248
- ROBINSON SIR R 301
- Rockefeller Foundation 84 315
 Division of Medicine and Public Health 40
- RODHAIN A H J 243
- ROELSGAARD E 27
- ROMERO Y ORTEGA N 11 168 243
- ROOZENDAAL N A 245
- ROSE A 205
- ROSE E 98
- ROSS G R 247
- Rotterdam Maritime Health Centre 53
- ROUGÉ B DE 249
- ROUMY B 246
- ROUTLEY T C 243
- ROWLETT A E 249
- RUEDI J 246
- RUSSELL, P F 280 316
- RYAN W C 83
- SAIFUL ANWAR 244
- SAITA A 245
- SALCEDO J 168 169 47 246

- Nutrition (*continued*)
 programmes in— (*continued*)
 Indonesia 27
 South East Asia 328
 survey in Iran 84
- OBEZ P 248
- Occupational health survey in Egypt 315
- Office international d Hygiène publique 145
 279 283
- OLSEN O E W 244
- OR C 246
- OSMOND CLARKE H 6 125
- ØSTERLOV JENSEN K 27
- OUROT SOUVANNAVONG 245
- ØYNEVAD E 246
- PADUA R G 192
- PAIVA FERREIRA BRAGA E DE 243
- Pakistan
 maternal and child health project in
 141 143
 nursing school in 337
 venereal disease control in 107
- PALMER C E 258 259
- PAM (procaine penicillin G in oil with 2%
 aluminium monostearate)
 therapy—
 in India 94 271 272
 in yaws 253
- PAMPANA E J 241
- Pan American Sanitary Bureau *see* PASB
- Pan American Sanitary Code 1924 13
- Pan American Sanitary Organization *see*
 PASO
- PANDIT C G 145 244
- PARISOT J 170 182 183 248 263
- PASB foundation of fiftieth anniversary of
 14
- PASCUA M 276 278 331
- PASO Directing Council *see* Regional
 Committee for the Americas
- Pasteur Institute of Southern India
 Coonoor 319
- PERA P H 11
- Penicillin
see also PAM
 factory India 327
 therapy in—
 Ethiopia 282
 India 94
- PEPPER E L 39
- PERRY W L M 16
- PETERSEN O S 259
- PETERSON J S 248
- PETRUS E 43
- PEYNADO J B 243
- PFEFFERMANN H 249
- PHAIR J T 243
- PHARAON R 186, 246
- Pharmaceutical Journal* 55
- Pharmacopoea Internationalis* 55 56 76-77
 115 170 171 174 278 282, 322 371
 adoption as national pharmacopoeia by
 Israel 339
- Pharmacopoeias
see also Expert Committee on the Inter-
 national Pharmacopoeia *Pharmacopoea*
Internationalis
 history and development of 17 18
 unification of *see* Expert Committee on
 the
- Ph I *see* *Pharmacopoea Internationalis*
- Philippines 168
 BCG vaccination programme in 83 84
 malaria control in 108
- PHONG AKSARA S 246
- Physically handicapped (child)
 Joint Expert Committee on rehabilitation
 of *see* Joint Expert Committee
 rehabilitation of 329 331
 Technical Working Party on the 329
- PINHO B A V DE 246
- Pinta treponeme studies 290 292
- Pizzi M 241 308
- Plague 130
 manual on 77 78
 postmortem detection of 78 79
 vaccination against 288 289
- PLEHWE F K VON 244
- Joint IV Programme of the USA 327
- POLACK S 43
- Poliomyelitis world incidence of 306-307
- POLLITZER R 77 78
- Population 183 184
 control pilot study in India 33 34
 World Conference 183
 world statistics 46-48
- Portugal 280
- POTTS D 337
- PRAAG S VAN 245
- Premature infants retrolental fibroplasia in
 18 19
- PRIDIE E D 247
- Procaine penicillin G in oil with 2% alumi-
 num monostearate *see* PAM

- SUTTER V A 317 336
 SUYANASARA B 43 246
 SWAROOP S 46
 Sweden 88
 SWOBODA 167 248
 SYMAN S 245
 Symposium
 on cultural microbiology *see* Inter-
 national Symposium
 on yaws control *see* International Sym-
 posium
 Syphilis
 control in—
 Ethiopia 282
 Haiti 53
 India 266 273 301 302
 Iraq 14
 serodiagnosis 301 302
 treponeme studies 290-292
 Syria programmes in 370
- TABA A H 244 260 263
 TAED 61
 Taiwan
 malaria control in 280
 maternal and child health project in 314
- TAMPI R B 91 307
 TAVEL F DE 248
 TAYLOR R 247
 Technical Working Party on the Rehabilita-
 tion of the Physically Handicapped 329
 TELAHOUN TCHERNET 244
 Tennessee Valley Authority 199
 TESCH J W 370
 Tetraethylthiuram disulfide *see* Disulfiram
 Thailand 253 328
 malaria control in 140-141
 THEORELL, H 6 7
 THOMSON J C 84
 THORNTON H 28
 TIERKEL E S 28 322
 TOGBA J N 168 186 245 260 263
 TOLDERLUND K 158
 TONOLO A 301
 TORRES BODET J 166 167 248
 TORRIOLI M 245
 TOUSSAINT B 244
 Trachoma 132 260 297 300
 Expert Committee on *see* Expert Com-
 mittee
 TRAN VAN DON 185 247
 TRAN VAN THIN 247
- Treponematoses 128 129
 see also Bjel Expert Committee on
 Venereal Diseases and Treponemal
 Infections Pinta Syphilis Venereal
 diseases Yaws
 control in South East Asia 327
 Laboratory Center *see* International
 Treponematoses
 laboratory studies 290-292
- TROUPIN J L 43 241
 Trypanosomiasis in Africa 295
 Tuberculin testing studies on 254 259
 see also BCG
 Tuberculosis 127 178
 see also BCG International Tuberculosis
 Campaign Joint Enterprise Tubercu-
 losis Research Office Copenhagen
 bovine 131
 control in—
 Africa 295 296
 Egypt 315 316
 South East Asia, 327
 Turkey 135 139
 Expert Committee on *see* Expert Com-
 mittee
 legislation on 357 359
 Tuberculosis Research Office Copenhagen
 126 158 254 259
- TULI R L 370
 Tunisia 110 178
 TURBOTT H B 241 46 263
 Turkey tuberculosis control in 135 139
 TURNER T B 42 290
 TYLER R G 6 340
 Typhus 130
 control in Afghanistan 351 355
 vaccination against, 287 290
- UNAC Danish fund 255
 UNESCO 99 109 116 122 166 167 218
 261 329
 Visual Aid Production and Training
 Centres 100
- UNGAR D 43
 UNICEF 11 12 14 27 38 53 61 83 84
 111 116 117 118 119 120 121 123
 126 127 128 129 130 132 139 140
 141 142 143 192 253 254 255 281
 294 295 312 314 315 327 328 337
 351 370
- Unification of pharmacopoeias Expert
 Committee on *see* Expert Committee

- Salmonella Centre *see* International Salmonella
- SAMAMÉ G 43
- SAMBASIVAN G 109 140
- SAND R 182 183 343
- Sanitary conventions *see* International Sanitary
- Sanitary engineers European second seminar for 40-42
- Sanitary regulations *see* International Sanitary
- Sarawak
- BCG vaccination campaign in 281
- malaria control in 280 281
- Saudi Arabia venereal disease control in 338
- SAVONEN S 244
- SAYOCIE K 245
- Scandinavian Red Cross Societies 111
- Scarlet fever incidence in recent years 48 50
- SCHÉELE L A 165 166 187 247
- SCHILD H O 53
- SCHÖTTLER W H A 157
- SCHULZ K H 316
- Scarfarsers venereal disease control among 53 107
- SEDGWICK W T, 183
- SEIBERT F 265
- SELLERS T F 247
- SELVA SANDOVAL E 246
- SEMB C 4 6
- Seminar
- for European sanitary engineers second 40-42
- on alcoholism 31 33
- on health and human relations 109
- on statistics 314
- SEQUEIRA F 54
- Serodiagnosis of syphilis 301 302
- SHAW P 243
- SICAULT G 247
- SIDKY M M 244
- SIGERIST H F 243
- SIGURJONSSON J 244
- SILIMBANI G 245
- SILVA O 247
- SILVA TRAVASSOS A DA 246
- SINCLAIR LOUITT K W C 43
- SINOTT E W 201
- Sixth Decennial International Revision Conference 35
- SMALL, J M 249
- Smallpox 130
- dried vaccine 106-107
- Smallpox (*continued*)
- vaccination certificates 287 290
- world incidence of 79 82
- Snake venom neutralization of 157 158
- SOBTI S K 54
- Social and occupational health 121
- Social security
- ILO Convention on Minimum Standards 88 343
- medical aspects of 343 346
- Social situation of the world United Nations Economic and Social Council report on 347 351
- SOERONO M 244 326 328
- SOETOPO M 42
- SOKHIEY SIR S S 146 301
- SOMARRIBA L 11
- SOPER F L 11
- SORENSEN B 243
- South East Asia
- inter regional rabies conference 319 322
- programmes in 327 328
- Regional Committee for fifth session 326 328
- Regional Office for 143
- Area Representatives of 370
- Southern Rhodesia 110 262
- SOUZA E SILVA C A DE 243
- SPALLICCI A 245
- STACK M 248
- State Serum Institute Agouza Cairo 27 281
- Statens Seruminstitut Copenhagen 87 158 159 255 256 265
- Statistics
- health Expert Committee on *see* Expert Committee
- Inter American Center *see* Inter American
- can
- on causes of death 274 276
- vital for 1951 331 333
- Western Pacific regional seminar on 314
- Statistical Institute *see* International Statistical
- tical
- STEINBERG B 249
- STERNER R 205
- STONE A 34
- STOWMAN K 79 247 303
- STROBL, K 243
- STURM J 245
- Subcommittees of expert committees *see* Expert Subcommittee
- SUBRAHMANYAN K 26
- Sulfarsphenamine international standard for 16-17

- UNKRA 116 279
 Unitarian Service Committee of the USA,
see USC
 United Kingdom of Great Britain and
 Northern Ireland vocational rehabilita-
 tion services in 367 369
 United Kingdom of Libya 178
 United Nations 117 121 166 197, 208
 209, 212 215 260 283 314 329 336
 Appeal for Children *see* UNAC
 Charter 198
 Economic and Social Council 218
 Commission on Narcotic Drugs 69
 report on world social situation 347 351
 Social Commission 347
 Economic Commission for Europe 166
 180 210
 Educational Scientific and Cultural Orga-
 nization *see* UNESCO
 International Children's Emergency Fund
see UNICEF
 Korean Reconstruction Agency *see*
 UNKRA
 Population Commission 152
 Population Division 183
 Relief and Works Agency for Palestine
 Refugees in the Near East *see*
 UNRWAPRNE
 Secretary General 166 198
 Social Affairs Division 31
 Statistical Commission 152
 Statistical Office 48 274
 technical assistance programme 65 109
 technical working party on the rehabilita-
 tion of the physically handicapped 329
 United States of America *see* USA
 UNRRA 3 52 279 336
 UNRWAPRNE 116
 URBANO G 17 18
 USA
 audiology in 159 160
 blood transfusion services in 334 336
 child psychiatry in 312 313
 deaf and dumb children in rehabilitation
 of 159 160
 Point IV Programme of 327
 rheumatic diseases in 24-25
 USC medical teaching missions 3 10 340
 Vaccination
 see also International Sanitary Regulations
 against yellow fever 279
 international certificates of 287 290
 Vaccination (*continued*)
 requirements in certain countries 54
 with BCG *see* BCG
 VAHLQUIST B 53
 VALLILA O J 244
 VANDRIES H 248
 VARGAS MÉNDEZ O 243
 VAUCEL M 43
 VEENBAAS O 370
 VEERARAGHAVAN, N 322
 Venereal diseases 128 129
 see also Syphilis
 control—
 among seafarers 107
 international centre for 53
 in Egypt 281 370
 Ethiopia 282
 India 90-98 266-273
 Pakistan 107
 Saudi Arabia 338
 South East Asia 327
 International Commission of the Rhine 5
 Venereal Disease Research Laboratory Ga
 USA 92 302
 Venereal infections and treponematoses
 Expert Committee on *see* Expert Com-
 mittee
 VENKAT RAO V 54
 VERNET G 249
 Veterinary consultants missions 28
Vibrio cholerae 144 145
 VIDAL A 244
 Views on WHO 55 56 110 111 282 283
Vital Statistics and Causes of Death 194
1949 274 276
 VOLCARINGER J 244
 VOLKERT M 243
 VOLLENWEIDER P 168 246
 VONCKEN J 248
 WARBURG E 6 10
 WARD D 248
 WASEF OMAR 109
 WEBER E M 301
Weekly Epidemiological Record 290
 WEEKS E B 54
 WELSCH M 301
 WERRA J G DE 245
 Western Pacific
 inter regional rabies conference 319 322
 Regional Office for 115
 regional seminar on health statistics 314
 Whooping cough incidence of 359 362

